

State-of-the-Art Facilities Enhancing U.S. Army Special Operations Command Operational Efficiency at Fort Bragg

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Article and photos by
Hank Heusinkveld

Special Operations Forces perform missions in support of geographic combatant commanders or U.S. ambassador requirements. They operate at a grass roots level by training, advising and living alongside people of foreign cultures, and they develop understanding and wield influence through a network of personnel and assets.

The U.S. Army Corps of Engineers manages the construction of high-tech facilities that are designed to meet the needs of the U.S. Army Special Operations Command. The pace of construction is intense and is changing the face of the installation.



Deputy Chief of Engineers and USACE Deputy Commanding General, Maj. Gen. Michael Wehr, center, discusses the layout and design of the newly-completed U.S. Army Special Operations Command Language and Culture Center with Resident Engineer Doug Wood, left, of the Wilmington District's Resident Engineer Office at Ft. Bragg. At right is Wilmington District Commander Col. Robert Clark who hosted the tour, along with project manager and civil engineer Brian Whitley.

Decades-old buildings from bygone Army eras are being replaced by more modern and efficient buildings. USACE project managers work closely with the USASOC community to ensure that the construction is on time, on budget and fits the operational profile of special operations forces.

“USACE is nearing completion of the \$9-million Indoor Firing Range and recently completed the \$61-million Language and Cultural Center,” said Maj. Gen. Anthony Funkhouser, the Deputy Commanding General for Military and International Operations.

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Retired Army Engineer Officer Now Serving as District Executive Officer

The District welcomes Joe Tyron who is the Executive Officer, a new position that replaces the former Chief of Staff position.

Tyron is very familiar with the U.S. Army Corps of Engineers. He's had assignments as the Deputy District Commander of the St. Louis District and Deputy District Commander of the Afghanistan Engineer District based in Kabul.

"I have seen USACE employees work both in the U.S. and overseas at peace and during Overseas Contingency Operations which has only strengthened my esteem for USACE," he said. "In addition to that, I have been a customer of USACE working in Special Operations in the Military Construction Program."

Tyron said he was fortunate to work with eight different districts in his last job in the Army on some "very interesting and challenging construction projects."

"Truly the work we were doing together was cutting edge. My 26 years in the Army was an awesome experience, and I can say I have served in all components of the Army, Reserve, National Guard, Regular Army and now as a DA civilian. I really had a full career in the Army serving both mechanized, airborne and

special operations units as leader from the platoon to brigade level in both Overseas Contingency Operations and peace."

Tyron said the current position as executive officer has changed considerably. However, he'll do some of the same functions as the previous Chief of Staff.

"I'll help to advise the Command group as well as the corporate board. Two of my major functions for the District are to be a staff synchronizer and to champion the Knowledge Management program. I hope my Army and private industry experiences will be valuable for the district.

Tyron brings a customer and employee perspective to the district. He spent four years working in private industry in corporate America both as a pharmaceutical representative and a National Sales Director.

"Those experiences were very meaningful and really broadened my understanding about two important industries in the U.S. At the end of the



Col. Robert Clark swears in Joe Tyron for his new role as executive officer.

day it was about working well with others and getting the mission done regardless of the mission.

Tyron said fellow employees in the district are dedicated, smart people who really serve the people of the Nation.

"It's nice to be back on the team working with like-minded people. My favorite part is that we live in the Wilmington area and it is a great city. I wake up every morning thankful and happy to do what I do. I think a lot of employees have the same zest for life here in the district."

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open to the public.*

U.S. Army Corps of Engineers
Wilmington District

USASOC Con't

“Both facilities will enhance Special Operations Forces (SOF) capabilities. Other SOF facilities under construction include two different Battalion Operations Facilities, a Special Tactics Facility, and the Training Command Building. There are quite a few additional facilities that are in the various stages of design and construction on Fort Bragg. And there are even more projects in the pipeline as USACE supports USASOC project development as additional USASOC projects compete in the Military Construction process for future projects.

“They know what they want, they need it then, right now, just like they expect in their own missions,” said Ron Cannady, Chief of the Wilmington District’s Fort Bragg USASOC Resident Engineer Office. “We pride ourselves in trying to be able to meet those missions and to work with them through any bumps along the way, to readjust, to make that happen in their timeline.”

What’s bringing the special operations community into a new



Artist rendition of the area near the newly-completed USASOC Language and Culture Center (center left) with additional buildings that are currently under construction (right).

era of operational efficiency is the consolidation of its facilities. Units and their facilities used to be scattered around Fort Bragg which wasted valuable time and resources. Now they’re located in centralized areas.

“We have a battalion operations facility and a tactical maintenance facility that are purpose built for the unit,” said 3rd Special Forces Group Engineer Maj. Dan Fox. So from that the unit gains a lot of efficiencies not only in the sense of

energy efficiencies that the building provides saving maintenance dollars for the unit, but also in operations. By consolidating the unit they no longer have to drive across Fort Bragg to get to their storage warehouse or equipment. Everything is brought here to one facility.”

Speed and precise coordination are critical during a special operations mission. But planning for missions also requires time

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checks and constant communication. The new facilities are designed to take Soldiers all the way through the planning phase to preparation and finally to execution of the mission.

“Now with the new facilities, everything is under one roof,” said USASOC Command Engineer Col. Lee Hicks. “When they finish their planning, which is right next to their team room, they go downstairs, grab their specialized equipment and move on out. It’s very efficient and cuts down on a lot of wasted time going back and forth between different facilities.”

What makes the buildings invaluable to special operations is that they’re designed to adapt to technological advancements such as high-tech communications systems that require frequent upgrades. And when it comes to paying monthly utility bills the Army is saving money by incorporating cost-saving measures such as specialized windows that block harsh sunlight on hot summer days, and lights that shut off automatically when no one is in a



Maj. Gen. Wehr comments on energy efficiency of the Language and Culture Center with Brian Whitley. To Wehr’s right is USASOC Command Engineer Col. Lee Hicks and Wilmington District Commander Col. Rob Clark.

room.

“The cost savings actually come in the lifecycle of the building,” Cannady said. “A lot of times the upfront costs you put into it may be the same or a little bit more than normal construction. However, if you look at the long-term costs to operate and maintain that facility that’s where you come into the savings from the lower power bills and lower utility usage.”

As units move into their new facilities the buildings themselves

transition from becoming lifeless, tech-heavy shells to homes away from homes. Soldiers tailor their buildings to reflect their unit’s personality and unique characteristics. And on the walls are pictures of brothers in arms; brothers who fought and died for each other and for their country.

For more information about the U.S. Army Special Operations Command go to the following link;

www.soc.mil

District Supports Fort Bragg's 83rd Civil Affairs Battalion with Technical Expertise

**Article and photos
by Hank Heusinkveld**

The 83rd Civil Affairs Battalion based at Fort Bragg has a global mission. When deployed, they support every combatant command and U.S. ambassadors with targeted civil affairs operations through grassroots-level diplomacy such as assisting in humanitarian aid missions. They help establish food and water distribution, offer medical assistance and help establish long-term relationships. These efforts reduce and/or mitigate civil vulnerabilities that are influenced by state and non-state groups for legitimacy over relevant populations.

Enter the U.S. Army Corps of Engineers. A select Wilmington District team from the Engineering Branch provided Soldiers of the battalion with technical expertise in dam safety, Geographic Information Systems (GIS), watersheds and hydrology after the Battalion Engineer, Capt. Austin Wesley, reached out to a number of Wilmington District contacts asking for assistance for the unit's upcoming validation exercise named Operation Rockfish. The Soldiers were particularly interested in planning for catastrophic events such as dam failure and natural disasters. The battalion is getting real-world experience to train for overseas missions by assisting

counties that surround Fort Bragg with emergency response and planning and disaster preparedness plans. The Civil Affairs Teams offer their expertise in Humanitarian Assistance and Disaster Relief planning and preparation. Key to their assessments will be to identify local infrastructure and the impacts of a natural disaster on utility services and evacuation routes. It's a win-win situation; the Soldiers get hands-on experience that they can apply to their overseas deployments, and county governments get no-cost assistance improving their disaster response plans.

"This is something that we do for validation during the exercise; to seek out and identify local officials because that's what we do overseas," said Battalion Engineer Capt. Austin Wesley. "When deployed, we have to identify who the local officials are that we need to talk to, and what are the relationships that we need to build to streamline the process of delivering Humanitarian Assistance and



Civil engineer John Hazelton explains dam safety measures to Soldiers of the battalion.

Disaster Relief to certain regions. This exercise in North Carolina is a great way to practice that, and it helps us to work with a county that has a potential problem and to help solve that problem."

"We gave the Soldiers background information on watersheds and hydrology to give them a good understanding of how water behaves in a system," said Wilmington District Dam Safety Program Manager Megan Garrett. "The group

Civil Affairs con't

learned that dams have different purposes and are operated differently based on those purposes. In addition, we explained the conditions under which a dam might fail and cited several examples of dam failure aftermath including public response to such disasters.”

Garrett said the group received general information about how to read inundation maps and the factors that go into map creation. Consequence mitigation measures such as having emergency action plans and public awareness programs were discussed as well.

“We also explained first-hand lessons learned from experiences working with governments in foreign countries and responding to flooding and a dam failure in South Carolina in a rapid assessment capacity,” she said.

Wilmington District civil engineer John Hazelton, a veteran of three volunteer deployments to Afghanistan working on the Kajaki Dam, tied in his overseas experience to something that the Soldiers could relate to.

“I approached the presentation by remembering the basic questions I have myself whenever I see a dam threatened in the news,” he said. “Discussing the hydrology and hydraulics of dams from around the world certainly makes a technical presentation more interesting. I also wanted to provide the Soldiers with



Geographic Information Systems (GIS) specialist Trevor Lancaster discusses the various capabilities of GIS during the presentation at the battalion.

data sources and contacts for stateside reach back assistance should they deploy overseas and have a dam safety question. USACE has experts in all areas of dam safety and we can help put them in touch with various subject matter experts.”

The Soldiers of the battalion come from various backgrounds and missions from within the Army. Some were pilots, medics or came from special operations, but have all gone through a rigorous assessment to become Civil Affairs. Hazelton said they grasped his technical and complex presentation quickly.

“They were very curious about how Federal Emergency Management Agency (FEMA) flood maps and the dam failure inundation maps were created,” Hazelton said. “They asked a couple of particular questions that pointed out some unknowns in our computer modeling

such as debris blocking flow at bridges. Their questions reminded me to point out the limitations and assumptions that we must take in analyzing dam failures.”

The U.S. Army Corps of Engineers supports the Army with technical expertise and prepared Civil Affairs Soldiers with enough information to familiarize them with the subject matter, making them more effective for the training exercise as well as overseas. For Garrett, any opportunity to explain dam safety is gladly welcomed.

“One of my passions is educating people about dam safety. Many people do not understand the risks dams pose and why it is important we keep them from failing and also prepare for the case that a dam does fail. Anytime I’m asked to educate people about dams in anyway, I am interested.”

KALTENBACH EARNS PROFESSIONAL GEOLOGIST LICENSE

Licensed geologists and engineers provide professional and technical credibility to any and all infrastructure projects that are designed or overseen by the U.S. Army Corps of Engineers. In today's environment, having a professional license is a mandatory requirement for all mid and senior level geologists and engineers in civil engineering and the petroleum/mining industry.

Within USACE, professional geologists and professional engineers are the only authorized people to conduct investigations or supervise work on dams, locks, and levees. Furthermore within USACE, technical leaders on navigation, engineering or design projects must have to hold a professional license. Supporting team members are strongly suggested to maintain professional licenses as well. For geologists, this guidance is pushed down from USACE headquarters in Washington.

Kelley Kaltenbach is passionate about geology. When he's not in the office, he's either working from the back of a pickup truck next to a drilling rig, or working on board the multi-purpose vessel SNELL conducting vibracore missions to find the best grains of sand that will remain on beaches longer than other types of sand and will bleach in the sunlight for an aesthetically pleasing off white color. As a geologist, he provides expertise in the field of soils, rock, material strengths, groundwater assessment, rock slope stability assessment, foundation assessment, and execution of drilling, survey, and explorations to the geotechnical engineer.

"A geologist and geotechnical engineer have complimentary roles that are not all inclusive of one another," he said. "Together, they provide engineering guidance, design parameters, text, verbal and graphical input to plans and specifications, field inspections of infrastructure and may conduct construction quality assurance on demand.



Kelley Kaltenbach adds his name to the list of professional licenses earned by Wilmington District engineers and scientists.

Geologists are integral to the USACE Dam Safety Program by monitoring instrumentation, conducting field inspections, implementing foundation repairs, drilling operations, and helping the project delivery teams visualize complexities in the subsurface."

Kaltenbach has a busy schedule. He's a project delivery team member on the Post-45 Charleston Harbor Deepening Project which began in mid-February. This project will deepen the harbor to a depth of 56 feet and involves at least 11-12 miles of limestone dredging offshore of Charleston. He's also working on the Wrightsville Beach Validation Study which seeks to reauthorize the Wrightsville Beach Project which uses sand dredged from Masonboro Inlet and Banks Channel. And to top off his high priority list he's also a Dam Safety PDT member and steward for W. Kerr Scott Dam. In March, he'll lead an annual inspection to the dam and a nearby levee project.

WRIGHTSVILLE BEACH COASTAL STORM RISK MANAGEMENT PROJECT ON TRACK FOR MARCH COMPLETION

The Wilmington District's efforts to reduce risk of life and public and private property at Wrightsville Beach is currently operating as scheduled. The project, running strong since 1965 when it was initially constructed, will see an estimated 700,000 cubic yards of material pumped onto the beach from the Dredge McCaskill. Project Manager Jim Medlock said that the length of the project is 8,400 feet and is expected to be completed by the end of March.

USACE photos by
Hank Heusinkveld



Dredged material spews on Wrightsville Beach as a bulldozer begins moving it to design specifications. Below is the contract dredge McCaskill which is located at the southern end of Wrightsville Beach. (Continued on page 9)



WRIGHTSVILLE BEACH CON'T

Clockwise at right: Project Manager Jim Medlock speaks to local media to explain the project; onboard the Dredge McCaskill Col. Clark and Rolando Serrano, second from right, look at plans of the project on board the dredge McCaskill during a tour. At left is Wilmington District Deputy District Engineer for Programs and Project Management Christine Brayman, and to her left is Chance Lambeth of Representative David Rouzer's Office; a lone bulldozer moves dredged material to the edge of the surf; looking south at the project from Johnny Mercer's Pier.



Faces of Deployment

When Hurricanes Irma and Maria hit Puerto Rico and the U.S. Virgin Islands, the call went out throughout the Wilmington District for volunteers to help support emergency operations. The response from those who want to deploy has always been positive from Wilmington District employees, and more than enough experienced people signed up to offer support. For some, it was their first time to deploy.

The following Wilmington District employees share their experiences of deploying and what they gained from it.

Tonja Dreke, USVI, Contract Specialist, 20 Oct. – 16 Nov. 2017

Why did you deploy? I

appreciate the connection between what I do and how that benefits the military and the public. When a natural disaster strikes it's only natural for anyone to desire to help. The fact that I work for an agency that gets tasked at such a time to aid is a great source of pride for me. My previous deployment experience, although quite different, allowed me the ability to put measures in place at home to deploy quicker and my family is able to react more rapidly. There is also a much more immediate satisfaction in performing my job in a contingency type environment. The interaction with the people of St. Croix was absolutely amazing. Even with the 2 people I came across who complained, they did so in such a manner that I was moved to want to help in any way I could. Really those two people simply wanted an ear and given what they had been through that was the least I could do. Everyone there was simply grateful for the USACE presence and help. I previously deployed under ACC with the 9-25th as a Contract Specialist to Kabul, Afghanistan for 6 months. Again a very different but fulfilling mission and feeling of satisfaction. The ability to deploy as a civilian is part of why I love my job.



I have learned a lot about how USACE helps FEMA during Natural Disasters, how USACE teams are formed and interact. I am grateful for the opportunity to have helped the team support the USVI mission response and to have met and worked with some amazing people! I have gained knowledge and experience that will be a great help if ever the need arises again. This mission has challenged my knowledge base, forced creative solutions in less than desirable environments at times with people who's goals were also just to help no matter how long it took. That's quite amazing!

Trevor Lancaster, USVI, GIS Specialist, 23 Sept. – 2 Nov. 2017

Why did you deploy?

I enjoy the pace and purpose of Emergency Management support, especially from previous deployments including Mississippi Flood Fighting GIS support and Afghanistan Engineer District-North GIS Support. During this deployment I was the GIS Specialist for the Recovery Field Office. I supported Temporary Roofing, Debris, Infrastructure Assessment, Critical Public Facilities, and Temporary Emergency Power missions with geospatial data, geospatial analysis, and cartographic products. The US Virgin Islands posed unique challenges due to the lack of internet connectivity and traditional addressing. We were able to implement some unique solutions to overcome these challenges and I believe the Corps of Engineers and FEMA all learned a great deal from the response and recovery missions in the Caribbean this hurricane season. The scale and scope of the Federal Response in declared disasters is impressive, especially from a geospatial perspective. The quantity and quality of geospatial data being collected across all responding agencies is tremendous. For a single GIS product or analysis we



What did you get out of the deployment?

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Deployment Con't

could utilize post-storm NOAA Aerial Imagery, United States Geological Survey (USGS) Disaster Charter Satellite Imagery, FEMA damage assessments, Department of Homeland Security (DHS) basemap data, and Civil Air Patrol oblique photography. It was very fulfilling using my technical skills and experience to help those truly in need.

What did you get out of the deployment?

The deployment was an outstanding learning experience. I learned a great deal about the National Response Framework, FEMA, and the USACE Enterprise. I also met some outstanding fellow responders from across the country whose skill and professionalism were a great representation of the US Army of Corps of Engineers.

Sandara Lowe, SAW EOC, Administrative Support/CEFMS, 17 Sept. - 18 Oct. 2017, SAW EOC



Why did you deploy? I

deployed for a couple reasons. First, it was an opportunity to make some extra money. My son was getting married in November, so I seized the opportunity. Also, I wanted to be part of something grand and this was an awesome opportunity for our District. I had no idea how grand it would be! This was my second deployment. The first was at the tail end of a mission and was quite slow. I would say this is was far different than anything I had ever done.

What did you get out of the deployment? I gained so much! The group we had in Emergency Operations Center worked like a well-oiled machine for the most part. It took the entire group to make it flow and the communication was great. We became a team of people who relied on each other and shared information and truly worked to keep the machine that was EOC operating. And then there was year-end clear out and we did it all over again with new funding! I gained friends, face-to-face interactions with departments and people I wouldn't normally interact with. Also, a clearer understanding of

departments I work with from the field office. It was a sincerely rewarding experience and I can say I am hooked! I felt appreciated and I appreciated the opportunity to serve.

Lisa Landis, USVI, Emergency Management Specialist, 24 Sept. – 25 Nov. 2017



Why did you deploy? As an

Emergency Management Specialist for almost seven years, this was my first BIG event and first real deployment. It was an amalgam of emotional experiences, from exciting to scary, defeated to exuberantly proud. It was one of the best overall experiences I've ever had and I will forever remember the awesome local folks and all the first responders I had the privilege to work beside. I worked with logistics supply personnel, both Corps and FEMA, to procure the supplies and materials we needed to set up the RFO and execute FEMA mission assignments. With no power and spotty internet connectivity, finding vendors who could "swipe my card" were hard to come by. I spent most of the first several weeks networking and meeting the locals, looking for any way to purchase the supply list that was growing. The locals were extraordinary and were so very helpful. I made more than just business contacts on that island, I made friends that I'm still in contact with today. I purchased for both St. Croix and St. Thomas and in doing so had another exciting first experience; I had the opportunity to tour all three islands from a Black Hawk helicopter. That was awesome, yielded some pretty incredible pictures, and was a great story for my family!

What did you get out of the deployment? This deployment gave me a huge sense of pride, in myself and my ability to connect with people and get the job done. It gave me hope for humankind. The community spirit I found in the residents on St. Croix was beautiful. Those folks were as resilient as the island itself. When I arrived at St. Croix, it was a big, brown mass in the middle of blue water. Six days later the island began to heal itself, as did those amazing people. I can't wait to return...on vacation!

USACE completes its Temporary Power Mission in the U.S. Virgin Islands

By Lisa Parker

The U.S. Army Corps of Engineers (USACE) announced that it had completed its temporary power mission in the U.S. Virgin Islands, Feb. 12, 2018.

The U.S. Virgin Islands were in the direct paths of hurricanes Irma and Maria and these storms devastated the three islands of St. Croix, St. Thomas and St. John. More than 100,000 residents were impacted across the territory and more than 185 mile-per-hour winds ripped apart century old trees, bringing down power lines and snapping utility poles in half and stripping all vegetation bare; and approximately 500 boats were sunk in the harbors. Critical public facilities such as airports, police stations, fire stations, schools, medical facilities and both hospitals were heavily damaged. These impacts critically prevented vital government services to the residents of the Virgin Islands.



Arnold Gelacio and Kenneth “Kennji” Santiago who deployed from the Honolulu District go over a check list for temporary power equipment that’s being boarded for shipment off of St. Croix.

USACE Task Force Virgin Islands had been mission assigned by the Federal Emergency Management Agency (FEMA) to provide temporary power to critical public facilities such as: schools, police stations, fire stations, waste water treatment plants, water pump stations and hospitals. USACE temporary power uses FEMA assigned generators to provide connectivity

to essential services.

USACE installed 180 generators across the three Virgin Islands. Many of the generators were barged in between the two hurricanes and were held at the incident support base (ISB). Early on during the response and recovery operations many necessary items were staged at the

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Temp Power Con't

ISB; generators, water, meals ready to eat, tarps and gasoline.

The ISB housed the USACE Tulsa, Memphis, and Honolulu Power teams and contractors that installed the generators. Inside the ISB different size generators had been de-installed and were staged and waiting for transport to the barge the Bahama Express. The delivery of the vessel, Bahama Express on February 8, 2018 marked the final barge operations to return generators back to FEMA's staging areas within Puerto Rico and the continental U.S.

"This experience was very rewarding because we were able to help people obtain essential services within their community. This was my first time to deploy and be part of the temporary power team mission and I am motivated to help people that are impacted by future disasters." said Arnold Gelacio, USACE Honolulu District, Action Officer and Mission Liaison.

Hundreds of USACE personnel



Hurricane Irma and Maria knocked out power throughout the U.S. Virgin Islands when it hit in September of last year.

that are part of Planning and Response Teams rotated throughout the U.S. Virgin Islands providing critical FEMA missions that were assigned to USACE such as: temporary blue roof, debris removal, critical public facilities, infrastructure assessments, and temporary power.

"We all worked together as a team to provide power to various facilities. It was great working with a team of individuals to achieve a successful mission close out. It was a rewarding experience working for the people of the

Virgin Islands, Virgin Islands Water and Power Authority, Louis Berger, Haugland Energy, and many facility representatives. Together we were able to facilitate power solutions on St. Croix." said Michele Murray, USACE Honolulu District, Quality Assurance (QA).

Missions of this kind are a necessary stop-gap to allow power companies the time they need to restore primary power infrastructure. That's why USACE focuses on critical facilities and services.

ENGINEERS SHARE PERSONAL STORIES ABOUT WHY THEY CHOSE THEIR PROFESSION DURING NATIONAL ENGINEERS WEEK

By **Hank Heusinkveld**

Every year across the country, a designated week in mid-February is celebrated as National Engineers Week. This observance was founded in 1951 by the National Society of Professional Engineers to highlight the engineering all around us. It is celebrated the week surrounding the birthday of President George Washington who is often touted as the Nation's first engineer.

Celebrating National Engineers Week provides an opportunity to recognize achievements in the engineering profession, and improve external understanding of U.S. Army Corps of Engineers' contributions to the Nation through engineering. In addition, it helps promote professional development of engineers and encourages children and young adults who have aptitudes for math and science to pursue a po-

tential career in engineering.

USACE is a globally-recognized leader in military and civil engineering and science. There are some 90,000 Army, National Guard, Army Reserve, and USACE Engineer Soldiers and 34,000 Civilians standing ready to meet the challenge. In Fiscal Year 17, USACE's total obligations were \$25.4 billion, making it equivalent to #112 on the Fortune 500 list.

"Beyond providing a solution on time, within budget, and at the expected quality, engineers have the courage to serve on diverse teams to enable solutions deemed best by the society they serve," said U.S. Army Corps of Engineers Deputy Commanding General Maj. Gen. Michael Wehr.

Wehr graduated from the University of Santa Clara in 1985 with a bachelor's degree in civil engineering. He also holds a mas-



Maj. Gen. Mike Wehr became an engineer after encouragement from his grandfather who was also an engineer.

ter's degree in civil engineering from the University of Texas. He recalled a strong role model who encouraged him to follow in his footsteps.

"My grandfather, John H. Peaslee, was a civil engineer in Sacramento, California. While I was in grade school he taught me my first drafting lesson, then proceeded to give me his drafting

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set. He believed I could become an engineer if I really wanted to. This was a big vote of confidence, and I relied upon it heavily through some difficult studies. And in high school, my oldest sister in Seattle took me to visit the Ballard Locks and recommended I learn about the Corps of Engineers.”

Wilmington District engineers have a large variety of jobs either in civil works or military construction. They design and manage Storm Risk Reduction Projects at Wrightsville, Kure, Carolina and Ocean Isle Beaches, and



Electrical engineer Wilmarie Pagan knew at a very young age that she loved math and liked solving problems.

manage the construction of state-of-the-art facilities for the U.S. Army Special Operations Command (USASOC) at Fort Bragg, and manage water levels and water flow at the District’s five dams and reservoirs in North Carolina and southern Virginia. They all have something in common; they knew at an early age that they were good at or enjoyed mathematics and science, and they liked to solve problems.

Anthony Byrd of the Wilmington District’s USASOC Resident Engineer Office at Fort Bragg graduated in 2009 from North Carolina State University with a degree in civil engineering. He knew when he was young that he enjoyed math, but it wasn’t until later that he chose engineering as a profession.

“I’ve always liked designing and engineering construction,” said Byrd. “I really didn’t know that I was interested in engineering until I was probably a freshman in college. I went to a community college for two years, and in that



Civil engineer Anthony Byrd has passed along his love of math to his young daughter, and helps her with math problems that he says she grasps quickly.

time I met some engineering students who told me what they did and I found that interesting.”

Wilmarie Pagan received her electrical engineering degree from Polytechnic University of Puerto Rico in San Juan. She also enjoyed math, solving problems and she had a strong desire to help people. Her biggest advocate, who encouraged her to take hard classes in upper level math

ENGINEERS WEEK CON'T



Hadrian-Lyle Leyco grew up in a U.S. Navy family and was fascinated by military machinery on base.

and science, was right at home.

“My father always encouraged me to study engineering because he always saw me trying to find solutions to problems, and looking for innovations and improvements to make things better,” said Pagan. “I became an engineer because I love math, and I also had a heart willing to help people. I love to see improvements by everything that I do, which I think is one of the reasons why I decided to be an engineer. Every time I had math or engineering problems I always liked to re-

solve them even when I did not have the answers. I always wanted to know why and how I could solve it.”

San Diego State University graduate and civil engineer Hadrian-Lyle Leyco grew up in a Navy family. At around age five, he realized that he had an aptitude for math due to his interest in numbers. Addition and subtraction was regarded as "fun" during that time. At around age seven, he discovered a fascination for science, mainly due to the amount of school field trips.

“Engineering came to be an interest once I knew the details of particular programs,” explained Leyco. “What mainly interested me was aerospace and robotics. Growing up in a Navy family, I came to see many F-18 airplanes while running around the decks on aircraft carriers. How they flew and what made them tick is what set in stone my interest for aerospace. Robotics came into the picture due to an afterschool program in high school that

taught students the basics of robotics and eventually how to build your own in a competitive environment.”

During National Engineers Week, parents, guardians and teachers are encouraged to mentor pupils or students who show aptitudes for math and science toward the world of engineering. Byrd, who has a young daughter, has noticed that she loves math just like he did when he was her age and he plans to encourage her to take upper level math and science classes as she gets older.

“I help her with her math and I can tell that she’s very good at it because she grasps what I’m explaining to her very quickly,” said Byrd. “It’s too early to tell what she’s interested in, but it’s possible that I might tell her what I do as an engineer to see if she’ll be interested.”

If you’d like to learn more about engineering and possible careers in various types of engineering, visit www.discovere.org

MULTI-PURPOSE VESSEL SNELL CONTINUES CLEAN UP WITH GALVESTON DISTRICT

They may be out of sight, but they're not out of mind.

The multi-purpose vessel SNELL has been working for the Galveston District since August 25, 2017 when it made its way from North Carolina to begin cleanup operations with the Galveston District after the devastating effects of Hurricane Harvey.

The crew has been active with mooring buoy installations, construction, dredging and debris removal. According to SNELL captain Scott Hall, he and his crew having been chipping away for several months at the various jobs to help make waterways safe and navigable.

"It's hard to say how many tons of debris we've removed," he said. "We've made a big pile. Debris removal has been a small, but important part of what we've done for the Galveston District."

The SNELL was called to help the Galveston District because of its unique capabilities of removing debris from clogged waterways by using a hydraulic grapple. The captain and crew are veterans of clearing numerous waterways in North Carolina and along the Atlantic seaboard.

"We reach out with the crane to the debris, load it on deck and cut it to manageable lengths, and dispose of it at designated placement areas. We also use

small boats to tow items alongside the SNELL where the vessel can grab items safely," Hall explained.

Hall said the buoy operations have been very different from anything the SNELL has done before. The materials they're using are

"extremely long and extremely heavy which has tested our capabilities and limits." He said there were several challenges the vessel and crew had to work through before they could start effectively doing the job. They re-engineered the mooring anchors for installation in stiff clay conditions, and modifying the SNELL's work deck with a built-in driving beam template to ensure the anchors are driven straight into the ground.

"We have installed 90 mooring buoys so far and all of them are still on station and working properly. It has been many years since this type of work has been done for the Galveston District, and it has improved the operation and safety



The SNELL crew hoists a sunken tree from a navigational channel.

issue for all tugs and barges transiting the Brazos River Floodgates, Colorado River Locks and across Galveston Bay."

Hall said the Lockmaster at Brazos Floodgates reported that accidents and collisions were drastically reduced since the buoy installation. They were averaging five to six collisions with floodgate walls per month before the buoy install and now it's down to one per month, a huge improvement. Vessels now have the opportunity to break down tows at the mooring buoys and make partial trips across the Brazos River and through the floodgates if needed, which reduces damage to floodgate walls due to collisions and accidents.

EMORY AND HENRY STUDENT DIGS INTO ENVIRONMENTAL EDUCATION

The following article highlights Emily Jones, daughter of Scott Jones of the Asheville Regulatory Field Office. Story reprint and photo courtesy of www.swvatoday.com

An Emory & Henry student is using her passion for environmental changes and sustainability to generate a greater appreciation for the outdoors among all ages of Southwest Virginia residents.

When Emily Jones, a civic innovation and environmental studies major, was faced with choosing a topic for a senior project this fall, she turned to what she loves the best.

“I have a huge passion for the world around us, and my studies are focused on how we can work together to create a better world,” said the student.

“I believe the environment impacts us on a daily basis, and we impact it as well. In order to create more sustainable



Emily Jones, daughter of Scott Jones, is a civic innovation and environmental science major at Emory and Henry College in Emory, Virginia.

communities, it involves everyone getting involved, including all generations.”

Throughout the fall semester, Jones partnered with numerous community organizations to develop an Environmental Education Initiative.

“Through a collaborative process, we designed community events that attract people of all ages — especially a younger generation who will become caretakers of our environment one day.”

Jones said the partnership resulted in enhancements in existing area programs that she hopes will continue to grow after she graduates in the spring.

“I could have organized events on my own, but that would not have been an effective way to bring about change. In order to ensure sustainability, community members need to work together,” Jones said.

“I like the idea of intergenerational education,” said Carol Doss, executive director of

STUDENT CON'T

Upper Tennessee River Roundtable, one of the partnering agencies. “We do educational activities for different ages, but I don’t think we ever have approached events with the intention of attracting different generations.

“For us at the Upper Tennessee River Roundtable, the Environmental Education Initiative is helping us look at educational events differently to see if we can include different ages.”

The following are three area events that engaged in the Environmental Education Initiative as ways to better connect with all generations of learners.

Great Backyard Bird Count

The annual Great Backyard Bird Count is 8 a.m. to noon on Feb. 17 at Hungry Mother State Park in Marion, Virginia.

Bring a pair of binoculars and join Randy Smith, a master naturalist, Mike Evans, a volunteer, and Craig Makufka,

program director of Southwest Virginia 4-H Center, as they survey the park for birds. Birding begins in parking lot 5.

All ages are invited to participate in the bird count at the park. Data will be included in the total number of birds in the international Backyard Bird Count.

The day will begin with a fun breakfast when the Holston Rivers Chapter of the Virginia Master Naturalists teaches participants of all ages how to create omelets in a bag.

A new activity is Trailgate in parking lot 5 where five organizations will educate the public about different environmental issues.

The Virginia Master Naturalists will teach about bird identification; Upper Tennessee River Roundtable will conduct a program on water and birds; the Washington County Virginia Master Gardeners will teach participants about habitat for native plants and birds; and the

Southwest Virginia 4-H Educational Center will conduct a bird feeder craft station.

Darin Handy, an interpreter at Hungry Mother State Park and a certified wildlife rehabilitator, will conduct a program about the rehabilitation of birds.

Participants are encouraged to dress warmly for the outdoor activities.

In the Stream of Things

In the Stream of Things is a new program conducted by the Virginia Master Naturalists and the Upper Tennessee River Roundtable.

The hands-on water program is from 10 a.m. to noon on March 17 at the Aquatic Wildlife Conservation Center at the Buller Fish Hatchery in Marion.

Registration begins at 9:30 a.m. when participants can enter to win a prize.

The aquatic activity will introduce participants to macro invertebrates that live in area streams and what can be done to protect the inhabitants.

STUDENT CON'T

Participants are invited to join certified personnel as they use the South Fork of the Holston River as a resource for learning about water quality and the animals that flourish in the water. Appropriate water gear will be provided.

A tour of Buller Fish Hatchery also will be offered.

During the program, Doss will introduce Adopt-a-Stream, a new endeavor offered through the Upper Tennessee River Roundtable. Volunteers are invited to sign up for additional training to help keep the area's waterways clean and attractive. Participants can choose a stream of water close to their homes or they can be assigned a stream for clean-up projects. Opportunities are available for volunteers who want to help with stream monitoring which involves collecting data of the quality of the water and the aquatic life that it supports.

Mid-Atlantic Garden Faire

Presented by the Washington

County Chapter of the Virginia Master Gardeners, the 21st annual Mid-Atlantic Garden Faire is April 6 and 7 at the Southwest Virginia Higher Education Center in Abingdon.

In addition to offering a garden marketplace, seminars and workshops, the event will feature two classes on April 7 that focus on intergenerational learning.

From 10:15 to 11:30 a.m. is Sow, Grow and Harvest. Ben Casteel, instructor of horticulture at Virginia Highlands Community College, will present a program on seed saving, starting plants from seed, methods of gardening, growing techniques and harvesting.

Free vegetable seed packets will be given to youth under 18 who accompany an adult.

At 11:45 a.m. to 1 p.m., Dahlias for All Ages will concentrate on how to grow the flower. Buddy Dean, a dahlia hybridizer from North Carolina, will bring growing dahlias to be given away to youth 18 and younger who



Emily Jones : "I have a huge passion for the world around us, and my studies are focused on how we can work together to create a better world."

accompany adults. Youth who receive the flowers must register for a dahlia competition for which members of the Washington County Chapter of the Master Gardeners will track the progress of their dahlia plants throughout the summer. If the dahlia receives a blue ribbon in a county fair flower competition, the master gardeners program will award an additional monetary gift to the youth and Dean will send the recipient gift coupons for ordering additional dahlias.

BLACK HISTORY MONTH

February 2018

AFRICAN AMERICANS in TIMES of WAR



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