

STEM SPOTLIGHT

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Q How did you select your college major?

A I began college as an English major. I enjoyed writing, but didn't really enjoy grammar, subjects, predicates, dangling participles, and the like. Luckily, my future mother-in-law asked me a question at the end of my freshman year: "What do you plan on doing with your degree after you graduate?" I didn't have an answer. Presuming I would one day be responsible for feeding her daughter, my mother-in-law suggested a stable career: engineering. As I entered my sophomore year of college, I became intrigued by the natural order of things present in my calculus and physics classes. I enjoyed the theory of these classes, but rather than focusing purely on math or physics, I saw engineering as a way to apply these phenomena to create new things. My Fluid Dynamics class had me hooked, and water became a passion.

Q What was the biggest influence in your selection of major/ career?

A Water has always intrigued me. I can stare at a stream for hours, watching the currents moving in three dimensions and exerting tremendous force on trees, bridges, or anything in its path. Water is necessary but dangerous. Source of life and death. Amenity and Nuisance. Civil Engineering gave me the tools to quantify these forces and help cultivate this resource.

Q If you could go back to high school and select any elective course to take that would have better prepared you for college, what would it be?

A I definitely would have taken more Advanced Placement (AP) classes, especially AP Chemistry. Getting college credit for free is always a good idea, and the pace of AP classes in high school is much slower than a comparable class in college. It would have been nice to have a solid foundation of how things work at the molecular level.

Q What is your favorite aspect of your job?

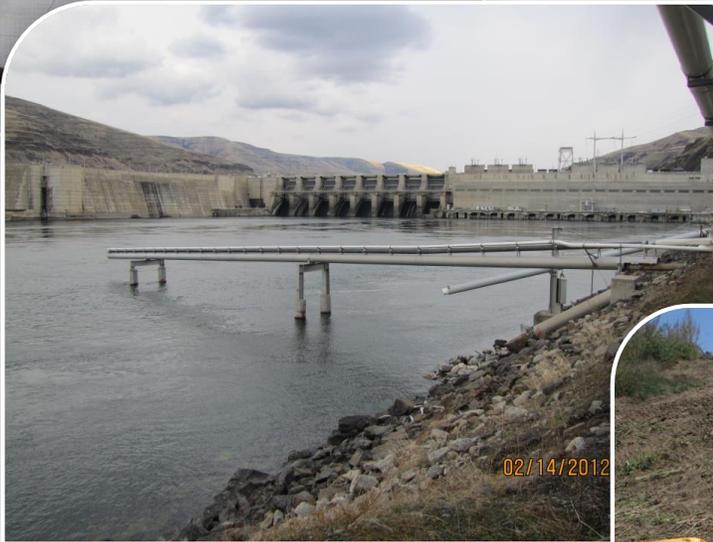
A The opportunity to improve people's quality of life. I feel like I've had the opportunity to make money without helping people, and it was not fulfilling. Engineering offered me the chance to provide for my family while serving my community in very tangible ways. Making sure a community stays above floodwaters, has clean drinking water, and is safe from raw sewage, is very rewarding.



Q How do you/your company make a positive impact on society/our community?

A We design the facilities required to treat people's drinking and wastewater water, protect them from floodwaters, and provide our community's necessities in a sustainable and responsible manner. We are currently working in Memphis to reduce sanitary sewer overflows while growing the local engineering and construction expertise by encouraging small, local, and disadvantaged business participation.

Q What is the most interesting thing you have been able to do in your career?



A I've had the opportunity to be a part of too many interesting project to pick just one. I was able to help the City of Memphis by modeling a large urban watershed, developing alternatives, and designing a regional detention facility that most people would never recognize as detention basin. We retrofitted an NCAA soccer field into a regional stormwater detention basin while improving its athletic functionality and the overall aesthetics. The university thought so highly of the field's appearance that the school's graduation ceremony was moved from a rented venue to the enhanced field (aka detention basin).



I had the privilege of serving the Memphis District Corps of Engineers during the historic flood of 2011, and had a major design role in repairing the Birds Point – New Madrid Floodway after its successful activation.

My education let me pursue a lifelong dream of living in the Pacific Northwest working on the Snake and Columbia River hydropower dams for the Walla Walla District Corps of Engineers. I had the opportunity to work on some of the largest and most complex turbines, spillways, and fish passageways, including a \$50 million dollar juvenile salmon by-pass system.

And now, my education has allowed me to come home and work for Gresham Smith & Partners as we help the City of Memphis undertake a 10 year, \$250 million sewer assessment and rehabilitation program.

Q What makes you get up each morning excited about your profession?

A I feel like my job matters to the people around me. I'm not waking up for a job, but for a chance to help people and make Memphis a better place. I know that every day something new will challenge me, and I'll have a chance to make a difference.

Q What advice would you like to share with K-12 students who are considering your profession?

A An engineering degree, like all things worthwhile, is not easy to obtain, but it is valuable for you, your family, and your entire community. Do not be intimidated by the course work; you are more than capable of understanding and excelling.

