Civil Engineer

Water/Wastewater

STACY EAGLE
C2AE

My biggest piece of advice is to consult the people who do the work. Just because I'm an engineer does not mean I know all the answers. I keep a lot of friendly contacts with contractors, sub-contractors, suppliers, and testing agencies so I can call when I have a question.

What does a typical day look like in this role?

It depends on the day! The best part about this job is the variety. In the winter, my day is focused more on design work and project planning in the office. In the summer, I spend a lot more time outside overseeing construction projects, testing materials, assisting surveyors, meeting with clients, and taking care of construction administration tasks (change orders, pay requests, etc.). I work on projects covering all aspects of the water cycle.

What are the most challenging aspects of this career?

Sometimes I feel like I'm trying to fit a square peg into a round hole when we are trying to design systems around existing utilities. It helps to envision each project as a puzzle. There is a solution, I just have to find it! Also, dealing with the public can be challenging during big construction projects. The key is to be optimistic, engaged, and empathetic.

What are the most rewarding aspects of this career?

Seeing a project all the way through. From initial concept, design, gaining funding, seeking approval from communities, permitting, construction, and restoration. Most people just expect safe water from their faucet and for their toilets to flush without thinking about all the time and effort it takes to get there. I love seeing a brand new road, sidewalk, or streetscape and knowing all the intricate details about what is underneath and why.

Educational Requirements

What level of education is typically required?

For a Civil Engineer, a 4-year degree from an accredited college is required. However, a Civil Tech only requires a 2 year degree and they play a major role in the construction end of things (inspection, testing, reports, etc).

Are there specific fields of study that are most relevant?

Math and science! Having a strong, core understanding of algebra, geometry and physics goes a long way and prepares you for learning more specialized fields such as structures, geotech, hydrology, etc.

What are the usual work hours?

Typical office hours (8-5, mon-fri). During construction season, days can be more like 7-7, mon-fri for fieldwork. My job also requires occasional evening work (City Council meetings, client relations events, training seminars, etc.)

What soft skills are required

The running joke is that engineers are introverted and nerdy. While that may be somewhat true, I spend a lot of time and energy communicating with contractors, construction workers, clients (municipalities), funding agencies, government bodies, etc. Good communication skills and the ability to listen are very important in my role.

What are the common entry-level positions?

Entry-level for a recent 4-year college graduate would usually be "Staff Engineer" or "Engineer in Training." RPR (Resident Project Representative), Inspectors, and Civil Techs for a 2 year degree.