



Sloan Career Cornerstone Center

Profiles of Civil Engineers



Anne J. Gorczyca, P.E.

**Assistant Area Construction Manager
Massachusetts Highway Department
Boston, MA**

Education:

B.S., Civil Engineering, University of Massachusetts
M.S., Construction Management, Northeastern University

Job Description:

"I am currently employed as an Assistant Area Construction Manager for downtown contracts on the Boston Central Artery Project. I oversee construction management consultants, approve extra work and contract variances, and participate in dispute resolutions."

Advice to Students:

"Civil engineering students should focus on improving their written and oral communication skills and take full advantage of co-op or internship opportunities to get experience before graduation."

Video Transcript 1:

"To be a successful engineer, it's important to know theory but you have to know how to apply it and that is where your experience comes into play. That is why it's important to try to get some experience before you focus on your particular area of concentration. You have to be able to write clearly, to communicate your thoughts, to communicate problems that are happening in the field to designers. You have to be able to be independent at times and then you have to be able to work as a team at times too."

Video Transcript 2:

"Salary and work hours are a trade off from my experience. If you are looking for a high paid job, there is a lot of responsibility and time commitment that comes along with that. For instance, a contractor will typically get paid more than their counterpart in the public sector or from the owner's side because they are going to be working six days a week and very long days. So that's a tradeoff."

Video Transcript 3:

"I have a great deal of support from the two managers I work for, my manager and our director of construction and I consider them mentors, people I can sit down and talk to and get feedback. They even volunteer feedback to me and I think that has made my job here and my

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transition to a management role so much easier, having people who support you and are there as a resource."

Video Transcript 4:

"I don't think there is a lot of job security anywhere and even working in the public sector where there is a little more job security than in the private sector, I don't take anything for granted. That's why it's very important to keep pursuing your field academically. Any opportunity you can have to increase your knowledge, to increase your experience, to increase your ability to meet other people I think is very important. And you have to work hard and do the best job possible and realize there are no guarantees."

Video Transcript 5:

"The size of a company has considerable influence on the salary range for a given function. Larger firms tend to offer higher starting wages and more benefits, but upward mobility may be highly competitive. A smaller company may pay less but offer a more direct path to greater responsibility and a bigger check. It is your preference, and up to you to seek out the facts regarding each individual company you might consider working for."

Interview:

Gorczyca: Working on the Central Artery/Ted Williams Tunnel Project has certainly been the most interesting project of my career. In my area there is approximately \$1 billion of heavy construction and utility relocation in a dense urban area. We have to maintain traffic, access to the office buildings, residents' ability to sleep at night while work progresses, and pedestrian and tourist safety while maintaining schedule and budget.

Q: What are some of the mundane but necessary aspects of your job?

Gorczyca: My job has many mundane aspects but many exciting aspects as well. Some of the mundane aspects are there are many meetings. As a construction manager one of our roles is oversight. Acting as the owner's representative, working for the Massachusetts Highway Department, it is important to represent the owner's interests and which is also the taxpayers. So we are monitoring how they are proceeding with the work, how the work is progressing, the cost containment, how the schedule is meeting up to the anticipated milestones. So there are a lot of meetings to deal with schedules, to deal with cost, to deal with community issues, to deal with traffic, to deal with environmental issues, to deal with another owner, which is the Federal Highway Department, to work with their concerns, how well they think the project's being run. And you can get caught up in these meetings that are being held around the clock without addressing some other important things, so time management is very important because you can get caught up in going to meeting to meeting because there are so many held. And sometimes they can be boring but at other times if you, if you miss a meeting and you're not here to represent construction as well as the owner's perspective, you've missed an opportunity there. So that's a mundane thing. The paperwork. The amount. I have seven construction contracts in my area and we get copied in all the correspondence. And as the owner, I want to screen the correspondence to see if there are any issues that I think need to be tracked better or I want to get involved in. So there is a lot of shuffling of paper but it's important. But it's very time consuming.

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Q: What is an average day like?

Gorczyca: The average day for me consists of maybe a couple of job tours with resident engineers to view the progress of the construction contract. And also attending meetings. Some of the topics of the meeting may be a traffic meeting. We may be having a traffic change and we're planning the best way to implement a traffic move to have the least impact to the commuters, to tourists in downtown Boston and to the businesses. I also attend meetings on how to minimize night time noise from the construction projects. We attend meetings to deal with schedule issues on particular contracts and then to deal with construction issues. We may be having problems with one particular construction operation where we have a technical issues meeting and try to resolve the problem we're having in the field. So there are site tours and meetings and then time briefing my boss. I work for the area construction manager and brief him on the so-called hot issues that I'm working on, have been working on the last few days to keep him updated on what's happening because he's dealing in a macro sense as well.

Q: You have to work long hours, weekends?

Gorczyca: I don't have to work weekends, thankfully, on this job. Some days can be longer than others but, thankfully, the day absolutely flies by and so I don't have a complaint about that. There are times when you are busier than others and you have to take advantage of when things are slow and try to make sure you leave on time so you're able to take care of things in your personal life for when it's busy.

Q: How do you keep a balance with your personal life?

Gorczyca: Since I've started here, I have to admit I've really spent a lot more time on this job because I'm still learning my role and it's very exciting work and I feel very motivated by the people I work with. And it's important to regroup on the weekends with my friends and family and husband. That's mainly how I do it. I've tried to bring work home to do on the weekends and as soon as I get home I know it's just not possible. Really, there are so many other things that I think to be a well rounded person you have to give time to as well. I think that's one of the benefits of working in the public sector where you're not expected to devote 90% of your time to your career. In the private sector, it tends to be more demanding. The pay scales are higher but the time is very demanding.

Q: Is working as an engineer everything you thought it would be?

Gorczyca: I think when I was a student, an undergraduate student, I had visions of working in an executive suite and having assistants taking care of all the grunt work for you. When you actually start working, especially in construction, you're working in inclement weather, you're working in the rain, you're working in the cold, oftentimes you're working at night, especially in transportation because those are the only times you can work on the roadways. You are doing a lot of typing, a lot of administration work yourself, so it certainly isn't as glamorous. I'm not wearing expensive designer suits to work, I'm wearing very practical clothes. I'm dressed to work. So it's a little different in that sense but I find it very rewarding and I'm very happy with the way my career has turned out.

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Q: What 's it like working in a man's field?

Gorczyca: Working as a woman in construction, I think it is important to have some sort of confidence in yourself because I think you are constantly being challenged as to why would a woman want to work in construction? And you feel you have to defend your career choice often and you really have to learn not to let those challenges bother you. And some people are curious and some people do, some men do feel threatened by women in this field, that unfortunately has been male dominated. And it is such an exciting field, it's a shame to limit it only to men. I would encourage many women to go into construction because it is a very exciting and rewarding profession. But you will find that at first, I think in many jobs you have to prove yourself. And once you've proved yourself and you work hard, people are going to respect you and treat you with the respect you deserve.

Q: How did you prove yourself?

Gorczyca: I proved myself in construction by willing to cover operations in inclement weather, staying out in the rain, staying out, maybe working at night, staying out in the cold weather covering something when I could have easily been sitting in a heated field office. Just trying to show that I'm taking this seriously. And also not falling to temptations to get distracted by people. Sometimes people, laborers are looking for an excuse to talk to the engineer so they don't have to do their work. And I think it doesn't take long before people can tell, sense that you're serious about your job, you want to work hard, you're concerned about the quality of the finished construction project, and I think that was how I was able to prove myself to my peers.

Q: Do you have trouble getting a job as a woman?

Gorczyca: I think when the Mass Highway Department started recruiting when I was in college that particular year, I think they encouraged women to come. I think they were striving for a more diverse work force and they have always been very supportive. My management have always been very supportive and I think that helps. It's really changed quite a bit. I'm very grateful to the women who worked in construction in the seventies and early eighties. I really think they've paved their way for women who have come along later. And I, I think things are a lot easier now. I think people are a lot more accepting than perhaps they were twenty years ago.

Q: Do you network?

Gorczyca: I've started to network a lot more. And I am grateful that my boss, who I work for now, is very supportive of being involved in professional societies. And now working as a manager I have the luxury of being able to take a long lunch to attend a professional luncheon where there is going to be a speak. When you're working on a construction site, you have 30 minutes for lunch and you have to get back out there. So as long as you make up the time at another part during the week, the management in my job has been very supportive of that. And there's also after hour dinners as well, evening dinners and lecturers that I've been more active with since I'm working downtown closer to the location. And it's, it's been very helpful thus far. I think networking, I think involvement in student engineering societies is important and it's an important step but you're only going to get out of it what you put into it. If you have the ability to be active, to be either on one of the committees or get involved in inviting speakers to come and speak to your school, attending some of the conferences, I think that's very valuable.

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Q: What about job security?

Gorczyca: To be honest, I don't think there is a lot of job security anywhere and even working in the public sector where there is a little more job security than in the private sector, I don't take anything for granted. That's why it's very important to keep pursuing your field academically. Any opportunity you can have to increase your knowledge, to increase your experience, to increase your ability to meet other people I think is very important. And you have to work hard and do the best job possible and realize there are no guarantees. And I think that's just the state of the economy now in the United States.

Q: How about salary and advancement?

Gorczyca: Salary and work hours are a trade off from my experience. If you are looking for a high paid job, there is a lot of responsibility and time commitment that comes along with that. For instance, a contractor will typically get paid more than their counterpart in the public sector or from the owner's side because they are going to be working six days a week and very long days. So that's a tradeoff. I think what you have to find is what you want out of life and try to find the best mix.

Q: Mentors?

Gorczyca: As I mentioned earlier, I'm fortunate to have two older sisters who are civil engineers. And one sister works in Boston as well. And I guess I would consider her a mentor. When we're spending time together on family issues, we're not talking about work often because we have many interests but whenever I do have a particular question or a concern, she's someone I can call and ask for input on something or how she dealt with this situation since she has been working a few years longer than myself. So I'm very grateful to have a person that I can call. I also have a great deal of support from the two managers I work for, my manager and our director of construction and I consider them mentors, people I can sit down and talk to and get feedback. Even they volunteer feedback to me and I think that has made my job here and my transition to a management role so much easier, having people who support you and are there as a resource.

Q: Have you ever been presented with an unethical situation?

Gorczyca: I have not. Also, we work for the Massachusetts Highway Department. We represent the owner. And we represent the Commonwealth of Massachusetts and the taxpayers. And it's very important that the taxpayer is getting their money's worth out of the construction. And that's a very important part of our role that we're getting the quality construction that we're paying for. And I think that's something we're very aware of and we work hard at to make sure of that, to protect the taxpayer's interests. I haven't had any problems with individuals in my close to ten years work experience and I consider that a pretty good record.

Q: When you started your career, were you surprised by what happened? Or was it pretty much what you expected?

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Gorczyca: When I started working in civil engineering after I graduated from college, I really was expecting a nine to five type of job where I could go home and pursue all my other interests. And it took me a while to get used to the idea that you are going to be expected to work overtime. And I think what helps, what's very important is I think students have to accept that unfortunately a nine to five career, I think, may be gone. And it's very important that you find a job that you feel passionate about and you really enjoy because you are oftentimes going to be spending more than 40 hours a week. But if you really enjoy your job, if you feel challenged, if you enjoy the people you are working with, you don't mind it. You just realize that's a fact of life. So I think I fought that at first. Oftentimes, I didn't want to work, I just wanted to go home and do my other things. But when I realized to succeed and to advance in your career you're going to have to dedicate more than 40 hours a week, I began to accept that and, thankfully, I enjoy my, enjoy my job enough that I'm not tracking the time. Like I said, the time does fly by during my day.

Q: When did you decide to study civil engineering?

Gorczyca: Probably in high school, though I wasn't certain that I wanted to pursue civil engineering. But I knew enough about it that I thought it would be interesting and I knew I was interested in engineering.

Q: And so when you went to college, you were going to study engineering from the get go?

Gorczyca: Yes. I had a lot of interest but I liked math and science in school. And I had two older sisters who had just recently graduated in civil engineering so I knew a little bit about it and I thought it would be an interesting, an interesting career.

Q: So you have three sisters in the family who are civil engineers?

Gorczyca: Yes, I do. Very, nontraditional.

Q: How did that happen?

Gorczyca: Well, my older sisters are a year apart and one started, I believe, in physics. And then shifted to environmental engineering and went into structural engineering. And then my other sister was interested in structural engineering and switched to geotechnical engineering. But I think coming along, I didn't use them as a resource as well as I probably could have because I felt that a lot of people thought I was just blindly following in their footsteps. So I was pretty independent about my studies in civil engineering and I didn't ask them a lot of questions about it. I could tell that they were enjoying their job and I talked to them a little bit about it. But I think I was trying to prove to everyone that this was my own choice. So that is probably something, if I had to do it over again, I probably would have talked to them more about their experiences as civil engineering students.

Q: How did you choose civil engineering as a discipline?

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Gorczyca: I think it was probably sort of a process of elimination. I at one time was interested in environmental engineering and then I had studied some chemistry. And I thought no, I don't think I am that interested in chemistry. And taking different courses you are able to see what you like and weed out topics that you might not be interested in. Now originally, during my undergraduate I started to focus on structural engineering and I thought I would work in design and work for a consultant. It wasn't until I started working that I focused on construction, which is where I've been working.

Q: What do you like about construction?

Gorczyca: Construction is one of the few fields where you've got a project and you start and you end up with a completed structure, a road, a bridge, a tunnel, whatever it is. You can see the fruits of your labor. When you work in design, you can work years designing something and it never get built. By the time a construction contract is awarded, you have the approved design, you have the financing, you have the funding, all the pieces are there to go and build it. And it is hands on, you see your progress continuously, every day something gets accomplished even in inclement weather. And it's also nice to be able to work outdoors, of course in the summer and the spring. And the winter in the rain it can be tough. You have to take the good with the bad but those are some of the things I really enjoy about construction.

Q: What are some of the things that students should be doing while they are in school to pave the way for them to get good jobs when they get out?

Gorczyca: Well, I think they should be studying hard. That's probably a boring answer but I think the way college curriculum is set up, a lot of times when you are taking courses you really don't see the need. You may not think you're going to be using it but I think you have to trust in the professors and the department that they've set up a curriculum to try to introduce you to many topics that you will be using and drawing upon it some time. So I think that's important. I also think if you do have any opportunities to work in the profession, in civil engineering, either during breaks or summer internship programs or coop programs, just to be able to get a feel for the different jobs that are out there, it can help focus your attention or tune in on what areas you are more interested in and it may help weed out areas that you're really not that interested in. So I guess that's some of the things that the students can do.

Q: What were the most useful courses you took, the ones that you used in your work?

Gorczyca: Some of the courses that are very important in construction are material courses. You work a lot with concrete and pavement design and I think at the time there is also strength of materials where you learn a lot about wood structures and the strength of steel and iron and concrete that at the time I didn't think I would use as much as I do now. Also the basic physics classes. You use quite a bit of physics in construction. And your design classes. So those were interesting. Also, I took probably just one traffic engineering class in my undergraduate program which was a requirement and here I am working for the high way department where traffic issues come up often, especially working on the central artery project. Because while we have this massive public works project, we still have to keep the city functioning in the best capacity possible. We have to keep all the traffic maintained as best as possible. So it is important to have an understanding of how traffic can be impacted by different work. And the

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level of service and pedestrian issues and access of truck vehicles and loading and commercial traffic and those type of things.

Q: What about electives?

Gorczyca: Well, when I was studying undergraduate civil engineering, my electives focused on structural courses and design while now I don't do any design. I work with the design. The design is given to us and we try to build it according to the design. So I do draw upon those courses but I really don't use it day to day as much as some of the more physical courses that I took undergraduate.

Q: Do you have a Masters degree?

Gorczyca: Yes, I have a Masters degree in construction management.

Q: Did you work between undergraduate and graduate school?

Gorczyca: Yes, I did. When I came to work for the highway department, which was a very nice opportunity, they had a rotational training program where you were able to work a few months, from three to six months in the different departments, the highway department. I started in preliminary design thinking that I wanted to work in design but the way the Massachusetts Highway Department is structured now all of our design work is let out to consultants. So we don't do our design. We do our preliminary design up to maybe 25%. So after I was in preliminary design, I worked in survey and then construction. And then once I was in construction, which was probably six months after I started with the Department, I knew that this was where I wanted to focus and it was probably about a year after starting to work in construction I started thinking about graduate school and construction management and it was probably, I believe, a year and a half later that I enrolled in construction management at Northeastern University.

Q: How did you find this job at the highway department?

Gorczyca: When I was a senior at college, the highway department was actually recruiting heavily because they had been losing a lot of civil engineers to retirement and they needed to bring in some new young engineers, knowing that there were several big projects coming up, central artery project one of them. And they actually came to the University of Massachusetts and they interviewed people. And quite a few people from my class came to work for the highway department.

Q: Is there a big demand for your specialty now?

Gorczyca: I would say transportation construction, I think there is going to be -- there is a very large demand in the Boston area because we have got another six or seven years of major construction on the central artery project. So there certainly is a demand. Afterwards, I think the demand for transportation may shift to types of public transportation instead of highway transportation.

Q: Do you think the field of engineering is changing?

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Gorczyca: Construction engineering is changing. I think there's a reliance a lot more on computers and I think the construction industry is becoming a lot more sophisticated. When before you had people who gained their knowledge on experience, I think a lot more people are taking advantage of education, educational opportunities and then going back to graduate school to try to learn and get better versed in all the new technologies that are available in construction.

Q: What do you think are the most critical skills that a student should have?

Gorczyca: There are some very important skills. There are, of course, your engineering skills. I think technical writing is something that maybe is overlooked in civil engineering studies. It is amazing how much writing you do, how much you have to communicate, often in civil engineering or on construction projects. Things don't always happen according to plan. There are problems that come up, there are unanticipated obstructions or changes. And it has to be explained, the field personnel have to communicate what is wrong, what problems have happened to the engineer so that they can either redesign the system, their cost overruns. We have to explain that, and what is wrong, what problems have happened to the engineer so that they can either redesign the system, their cost overruns. We have to explain that. And you have to explain it to someone who is in an office who can't necessarily come out physically to the site and witness what you've witnessed. So you have to be able to clearly communicate that. So I think that's important. The other skills are your computer skills, just your basic typing. I think, when you are a college student, you always envision that you're going to have an administrative assistant to type all your reports and your memorandums and things like that and that's not true. With the introduction of personal computers at everyone's desk, you do a great deal of typing. So that's important. The other skills, your technical skills, I think once you have a basic engineering degree that's important but experience is very important too, so keeping an open mind and always seeing an opportunity to learn more and taking advantage of that, I think that's important.

Q: How important is flexibility?

Gorczyca: I think to be a successful engineer there are many skills in construction that you have. You have to have your technical skills but you can't be a purist. It's important to know theory but you have to know how to apply it and that is where your experience comes into play. That is why it's important to try to get some experience before you focus on your particular area of concentration. You have to be able to write clearly, to communicate your thoughts, to communicate problems that are happening in the field to designers. You have to be able to be independent at times and then you have to be able to work as a team at times, too. So I think you really, you have to be flexible. There are going to be many different situations. There are going to be times you're going to be working independently and there are going to be times you're working with a group and you're all going to be bringing different skills to the table and you have to best solve the problems that are before you.

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