

ENGINEER PROFILE

Name: Luz Penilla

Organization: Santa Clara Valley Water District



Engineering Discipline (Check one below):

- Civil
- Mechanical
- Electrical
- Environmental (including Process)
- Structural
- Information Technology
- SCADA
- Other

1. Please describe the work you do:

I am a mechanical engineer involved in the research, planning, design, construction, operation and maintenance of the District's major assets; such as pump stations, pipelines, water treatment plants, and the corrosion control infrastructure. Some assignments require the use of professional codes and standards to evaluate the tests performed on in-service equipment in order to determine if maintenance should be performed. I also assist in selecting and configuring equipment used for carrying out these tests.

2. What combination of education, experience, and skill was required in order for you to obtain your job?

For the Assistant Engineer I position, the District requires a Bachelor's degree in Mechanical Engineering. The job also requires knowledge in fluid mechanics and good understanding of the practice of experimental methods and sensors used for mechanical measurements. In addition to knowing how to perform tests, it's crucial to have strong skills in MS Word, Excel, and Adobe Acrobat. In addition to these, software knowledge in AutoCAD, SolidWorks or Inventor and Civil 3D is beneficial.

3. What do you like best about your job?

I enjoy researching and analyzing test data to determine the problem's source and solution.

4. Please tell us about the water or wastewater engineering project you enjoyed working on the most, and what made it rewarding,

As an intern at a waste water treatment agency I was responsible for updating the Plant's as-built mechanical drawings. I needed to investigate the pipe galleries, take photos, measurements and research old projects. I enjoyed this project because it helped me get a good understanding of the wastewater treatment process and it allowed me to meet with the Plant Operators who proved to be very helpful in gathering historical data when complete records could not be found.

5. What qualities and capabilities are needed in order for an engineer to be successful in the water/wastewater industry?

For a mechanical engineer to be successful in the water/wastewater industry I think it's important to have a good understanding of fluid mechanics in pumps, turbines and pipes and to be knowledgeable in experimental methods, sensors and report writing. Having good social skills is also necessary since the mechanical engineer will need the assistance of the Plant Operators to access mechanical equipment and carry out tests.

6. Do you have any advice for an individual who is considering pursuing a career as an engineer in the water/wastewater industry?

My advice for a mechanical engineer considering a career in the water/wastewater industry is to have a good foundation in the following subjects: fluid mechanics, thermodynamics, experimental methods, and sensors. In addition, I recommend the engineer have good formal report writing skills and knowledge in computer aided design software.