

Water Distribution System in Chumisa & Cruz Chich, Guatemala

Problem Statement

The communities of Cruz Chich and Chumisa in Guatemala lack access to clean water, forcing them to depend on untested, unsafe water sources that lead to waterborne illness and worse public health. The villages' lack of reliable, potable water worsens local childhood education, economic stability, and overall quality of life. The university's chapter of Engineers Without Borders aims to address this problem through the design and implementation of a water treatment and distribution system.

Knowledge & Skills Gained

Technical Skills

- Set a construction schedule
- Compiled list of materials in Excel
- Sampled, tested, & analyzed spring water
- Input survey data in EPANET to analyze water pressures
- Modeled the pipe network with pipes & valves
- Calculated loads, forces, and shear to properly dimension to tank
- Followed guidelines issued by EWB & the UN
- Modeled tank & spring box in AutoCAD & Fusion360
- Created a plan set to be used in Guatemala

