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## Village Water Ozonation System

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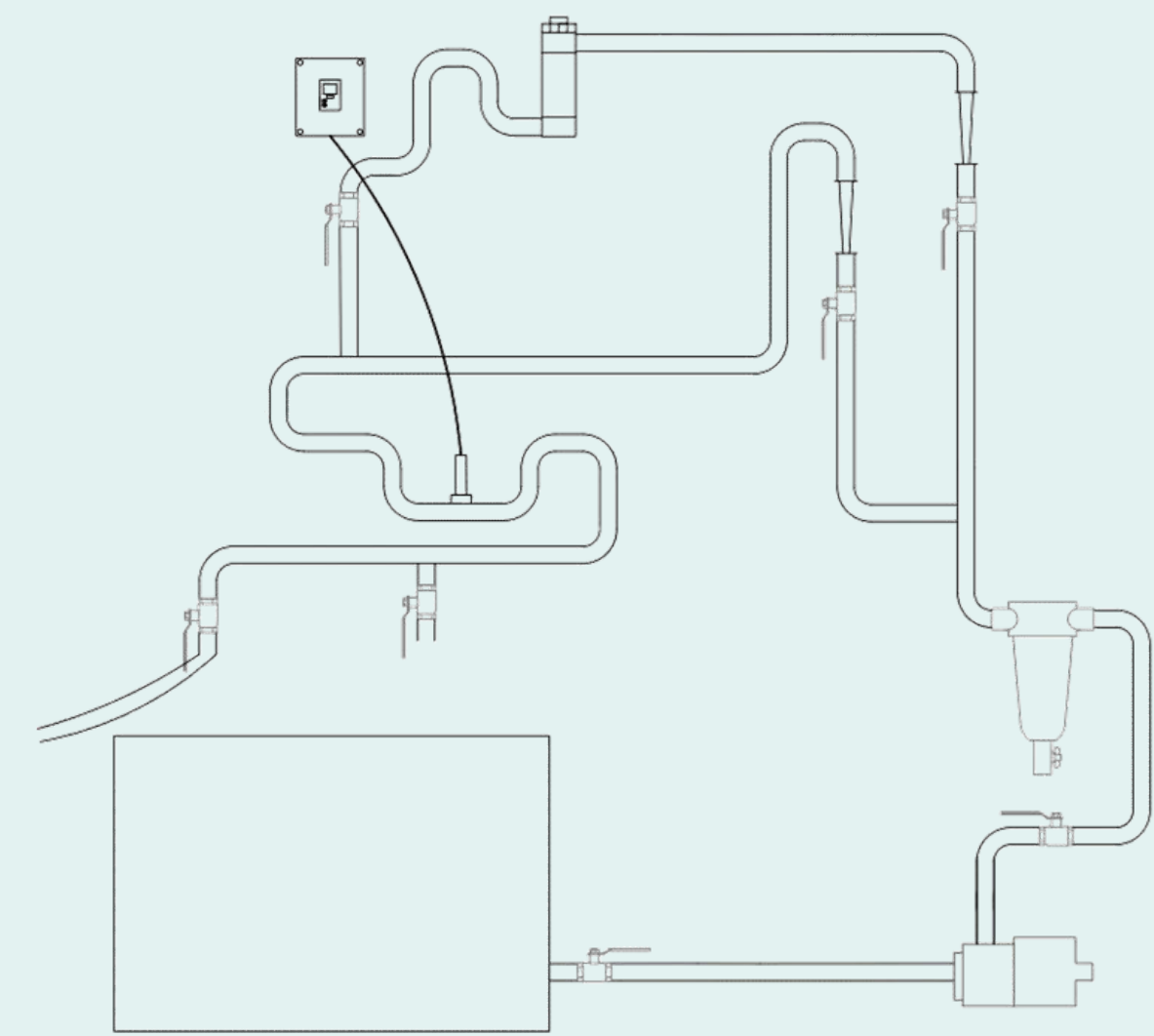
# Village Water Ozonation System

Ruth Galyen, Caleb Bruner

## Kijabe, Kenya

### The problem

Mama Beth's is a feeding program that serves children in Kijabe, Kenya. Along with the food, the children need clean water, but the center's water has >100 ppm of E. coli, while WHO standards allow 0 ppm. VWOS is working to provide clean drinking water for the children.



Chlorination System

### How we can help

The VWOS team has chosen chlorine as our disinfectant due to the quantity of water and the amount of E. coli. In doing so, we must also remove the chlorine after disinfection due to its taste. We are aiming to implement this system in 2023.

### 21-22 Timeline

Water quality test showed high levels of E. coli, and we selected chlorine as our disinfectant.

We built a chlorination system that can vary flowrate and measure cleanliness of water.

We conducted tests to monitor disinfection with different pH values which can vary at Mama Beth's.

### Our partner:



Jane Wathagana is the director of Mama Beth's, and lives in Nairobi. She is employed by Forward Edge, a U.S. based non-profit



## Acknowledgements

Sam Stone - Student Project Manager  
Liv Allbee - Volunteer  
Nate Binko - Volunteer  
Benjamin Gates - Volunteer  
Seth Kline - Volunteer

Professor Lockwood - Project Manager  
Ray Knepper - Project Consultant  
Tim Johnston - FIA  
Jeff Thompson - Forward Edge  
Andy Erikson - Consultant  
Derek Plante - Electrical Technician

## Our Mission

- 1 Provide economically sustainable and culturally sensitive drinking water solutions for communities
- 2 Transform people's lives by decreasing the occurrences of waterborne diseases
- 3 Empower communities with the ability to properly maintain their drinking water supply



VWOS 2021-2022

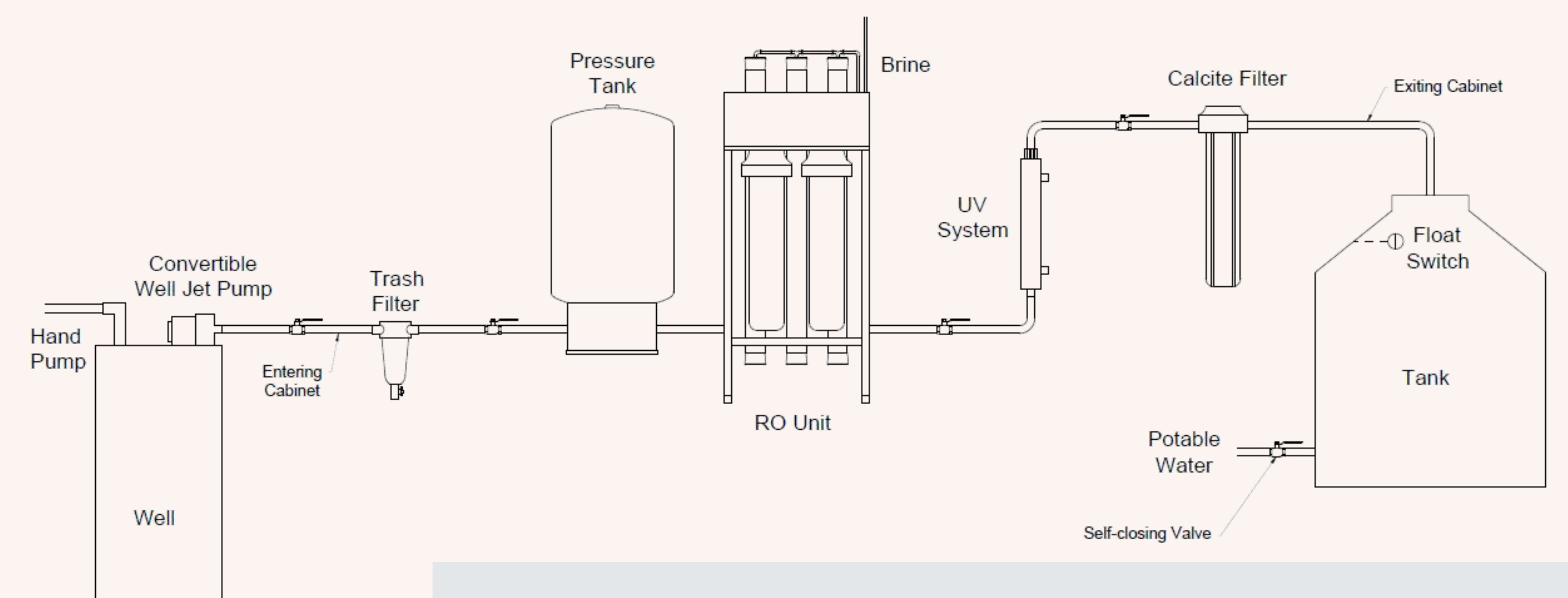
## Rama Cay, Nicaragua

### The problem

Rama Cay is a small island in Nicaragua. The only available water is from wells that are contaminated with E. coli and have a high salt content. The VWOS team aims to provide water that tastes good and is safe to drink.

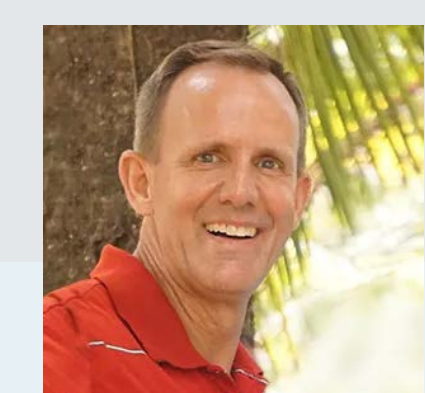
### How we can help

The team designed a system that will both disinfect the water and remove the salt, using a UV disinfection light and a reverse osmosis unit. There will be two identical systems on the island, one for the north side and one for the south side. The team has completed the plans and is preparing to travel to Rama Cay in the coming months to install the systems.



### Our partner:

Tim Johnston is the director of Forward Edge International, a U.S. based non-profit that we are partnering with in Rama Cay.



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