



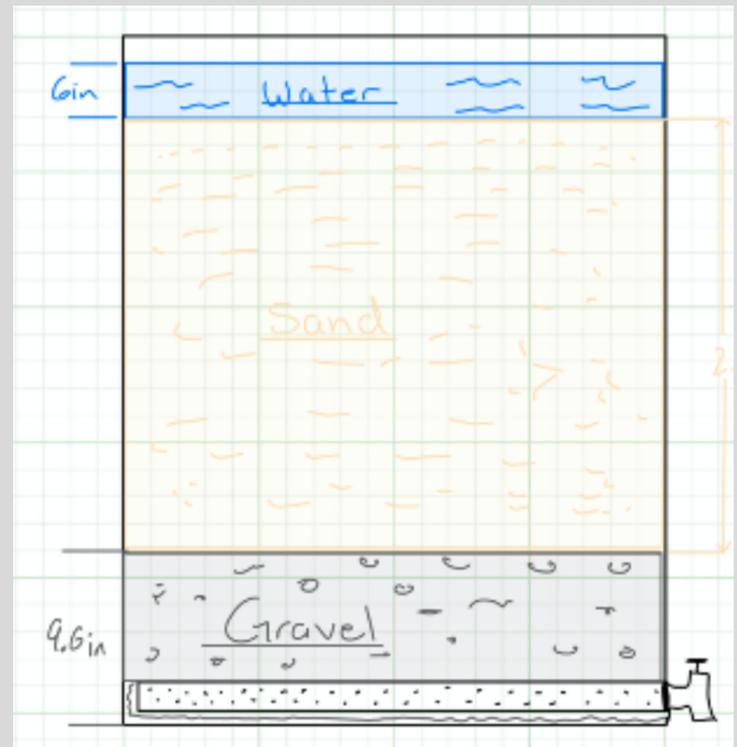
University of Idaho

UI Environmental Team

Abstract

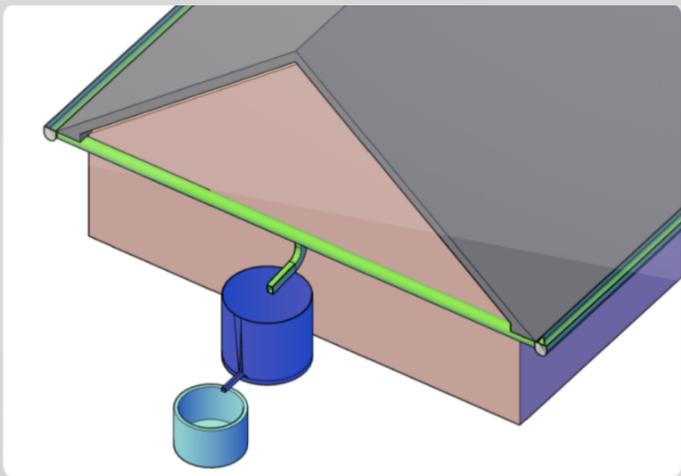
The primary purpose of this project was to provide the residents of Cortes Island with a safe, potable, low-cost rainwater gathering and filtering system. The island is located between Vancouver Island and British Columbia's main island. People have been trying to find clean drinking water sources due to a lack of a coordinated monitoring system. The island is isolated and has limited transportation options. We employed a gutter system to collect as much rainwater as possible and a sand filtration system to filter the water in response to demand. The gutter system and filter tank were built with materials that were readily available in the area. The entire procedure is low-cost and simple to comprehend.

Sand Filter



The sand Filter is constructed using fine sand and coarse gravel. A biofilm will clean the rainwater.

Rainwater Harvesting



The Rain water harvesting system consists of 5 inch gutters surrounding the roof. These gutter dump the rainwater into a 250 gallon tank where the water will be stored until its ready to be filtrated.

Cost

Item	Cost	Quantity	Total Cost	Store
250 Gallon Tank	\$ 381.99	1	\$ 381.99	National Tank Outlet
MAGZO Screen	\$ 13.88	1	\$ 13.88	Amazon
5 in. K-Style Gutter	\$ 5.38	4	\$ 21.52	The Home Depot
5 in. K-Style Cap	\$ 9.98	1	\$ 9.98	The Home Depot
K-Style Outlet	\$ 9.98	1	\$ 9.98	The Home Depot
4 Inch pvc pipe	\$ 8.98 / ft	4	\$ 35.92	The Home Depot
Haines Mac Elbow	\$ 24.95	1	\$ 24.95	Amazon
PVC Cement	\$ 10.57	1	\$ 10.57	The Home Depot
Other Materials (conservative budget)	\$ 30.00	1	\$ 30.00	
Filter tank	\$1.66 per gallon	1	\$59	Amazon
Total				\$ 607.79

"The Joe Vandal Filter™"