

# Alternative Backwash with Slotted Pipes

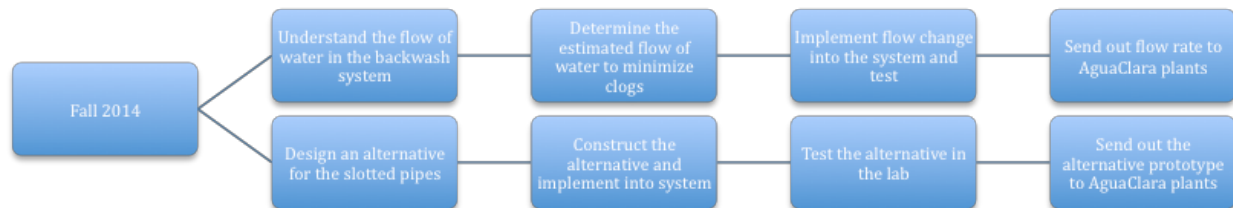
## Fall 2014

Alberto Arnedo, Ainhoa Arribas Llona, Jorge Guevara

September 12, 2014

### Task List

#### Task Map



### Task Details

1. Understanding the current Backwash system - Jorge, Ainhoa, and Alberto

In order to further our endeavors with our main goal of finding an alternative to the slotted pipes in the backwash system, we must all have a mutual and strong understanding of how the backwash system actually works, either through a lab demonstration or a meet up with our research advisor or both.

## 2. Understanding the effects of removing slotted pipes - Jorge, Ainhoa, and Alberto

By being able to determine the after effects of removing the slotted pipes from the system as a whole, the paths which the sand and water take within the backwash system can be further understood and thus lead to ideas on alternative ideas to the slotted pipes.

## 3. Determining the effect of changing the shape of the pipe - Alberto

Perhaps the problem may be that the current shape of the pipe is more prone to clogs than others. By researching the possibility of changing the shape of the pipe, we will be able to find a possible method to implement an alternative to the slotted pipes, as well as determine a geometry for the shape that will allow for feasible, mass production in all the AguaClara sites.

## 4. Researching different sands - Ainhoa

Instead of focusing on changing the slotted pipes or finding an alternative, why not focus on the material that is helping cause the clogs: the sand. Perhaps finding sand that is both larger and feasible to distribute to the AguaClara plants can help reduce the number of clogs.

## 5. Analyzing the flow of water within the Backwash system - Jorge

Similar to the reasoning for researching the different sands, by fully understanding the flow of water, it may be possible to avoid the remanufacturing of an alternative pipe. It could be that the way in which the fluid is moving within the system is either causing or helping the clogs to occur. The plan is to find a way to manipulate the flow rate of water within the backwash system in order to solve the problem.

### **Team Roles**

Jorge Guevara: Team Coordinator

Ainhoa Arribas Llona: Head of Research

Alberto Arnedo: Head of Design

