



Waste Water Pretreatment for Small Breweries

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Overview

- What is waste water pretreatment?
- Why do we need it?
- How do we accomplish it?
- How do we maintain it?

What is waste water pretreatment?

- Reducing BOD and TSS from our waste stream leaving the brewery before it enters the municipal system
- No sanitary waste!

BOD

- BOD or Biological Oxygen Demand is a measure of how much oxygen it takes microorganisms to break down soluble organic material in water.
- More BOD = less O₂ in water for plants and animals and more work for municipal WWTPs.

TSS

- TSS or Total Suspended Solids is the total amount of solids in water
- Bacteria consume these solids and can be settled out



How do we treat waste water?

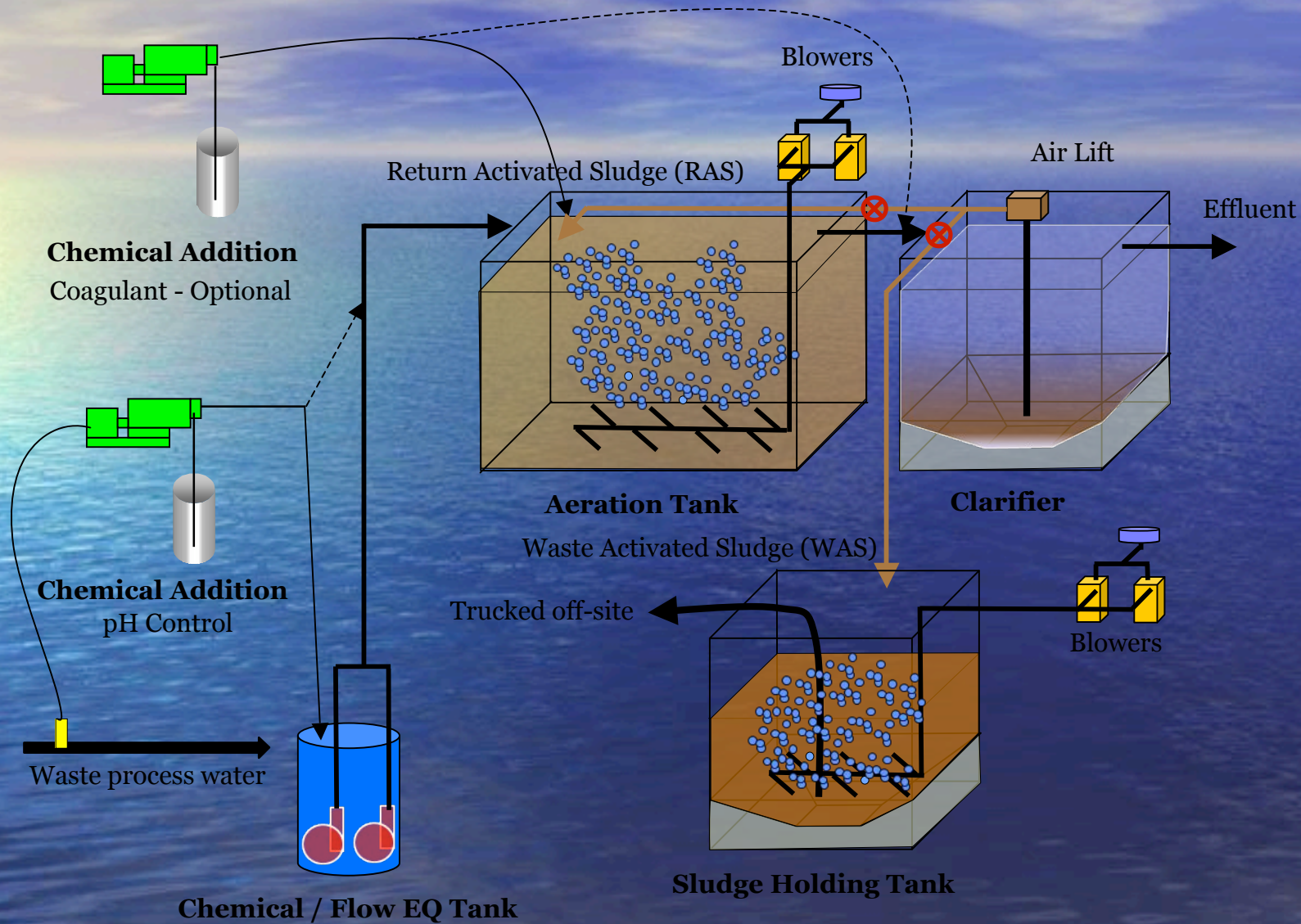
The Process

- Side streaming
- pH equalization
- Aeration
- Settling
- Pumping out

Side Streaming

- Removing as much organic material from waste stream as possible before it leaves the brewery.

Process Schematic







Testing and maintenance

- We test for pH
- BOD testing by an outside lab
- Low maintenance, but daily checks are a must!

Odor

- The system should not stink if working properly.
- pH has a large impact on odor
- Odor can be controlled through the use of essential oils.

Summary and Q & A

- Waste water treatment doesn't have to be stressful.
- Q&A