

## Most Frequently Asked Questions

1. What chemicals are used for treatment? Chlorine is used to kill harmful bacteria and Sodium Bisulfate is used to de-chlorinate.
2. Is treated wastewater discharged into Chinese Lagoon? No; facility discharge takes place about 900 feet offshore in the Strait of Juan de Fuca.
3. Can the plant run during a power outage? Yes; the facility has a generator that provides enough electricity to run all equipment.

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Wastewater Treatment Facility  
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**CITY OF PORT  
TOWNSEND, WA**

**WASTEWATER  
TREATMENT  
FACILITY**



*Environmental Excellence  
Through Treatment and Reuse.*

**For a Tour (360) 385-3193**

## WELCOME

This pamphlet provides a brief history of the City of Port Townsend's Wastewater Treatment Facility and details five basic procedures involved in treating wastewater.

The treatment facility is located in the North Beach neighborhood of Port Townsend. It borders environmentally sensitive areas of Fort Worden State Park and Chinese Garden Lagoon.

This facility was updated in 1993 and serves approximately 8,925 residential and commercial users. Together, they contribute wastewater flows for treatment averaging 950,000 gallons per day.

In the last twenty-one years, Washington State Department of Ecology, has presented twenty awards for the facility's perfect compliance with federal and state regulations. What makes the facility unique is its ability to operate and perform five procedures consistently, even during storm events.

### HOW TREATMENT TAKES PLACE

Wastewater treatment is the process of removing contaminants from wastewater. This task is accomplished by separating solids and harmful bacteria from water through the following methods:

1. Untreated wastewater flows into the facility, through a bar screen and a grit classifier. The screen removes large materials like rags or pieces of food. The grit classifier removes finer materials, such as sand and grit. All removed materials are sent to a landfill. Untreated wastewater from the grit classifier is loaded with fresh organic material

(food) for hungry microorganisms to eat when in the presence of oxygen. To achieve this the wastewater is sent to a pair of oxidation ditches.

2. The oxidation ditches have large paddles that churn oxygen into the wastewater. Microorganisms consume organic materials and oxygen from the wastewater. This mixture flows from the oxidation ditches to clarifiers.
3. Clarifiers allow enough detention time for the microorganisms and suspended particles to stick together. They become heavier and slowly sink, leaving behind a clear water that flows to chlorination basins.

The basins provide enough time for added chlorine to kill harmful bacteria. The water is then de-chlorinated and discharged into the Strait of Juan de Fuca.

At the bottom of the clarifiers are solids that contain concentrated microorganisms; which are pumped to two different places. Some are sent back to the oxidation ditches to eat food. Remaining solids are sent to the digesters.

4. Digesters allow solids to break down further and to become dense over extended periods of time. Solids from the digester floor are pumped into a belt press.
5. Belt press equipment squeezes remaining water out of the solids, forming nutrient rich bio-solids. Extracted water is re-treated at the treatment facility. Bio-solids are transported to the City's compost facility for making class "A" compost; which is safe for lawns and gardens.

# FLOW DIAGRAM OF WASTEWATER TREATMENT PLANT

4. Digesters



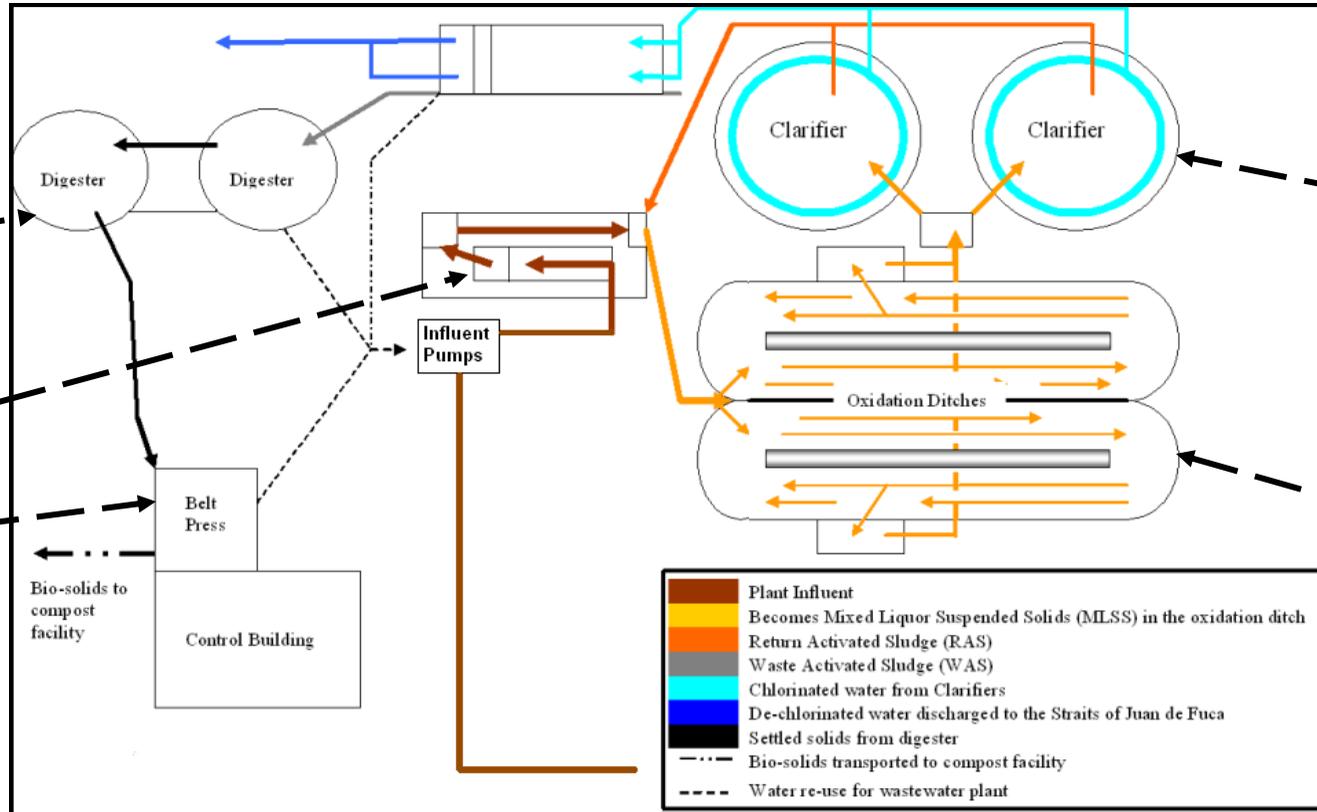
3. Clarifier



1. Bar Screen



2. Oxidation Ditch



5. Belt Press



**Keep these products out of the sewer and help Port Townsend with continued environmental excellence.**  
 (These items cause expensive repairs to sewer lines, pumps, monitoring equipment, and home sewer lines)

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|--|--|---|
| <ul style="list-style-type: none"> <li>Food, grease and oil</li> <li>Coffee grounds</li> <li>Egg shells</li> <li>Produce labels</li> <li>Sanitary napkins</li> <li>Dental floss</li> </ul> | <ul style="list-style-type: none"> <li>Rags</li> <li>Sanitary wipes</li> <li>Paper towels</li> <li>Cat litter</li> <li>Diapers</li> <li>Condoms</li> </ul> | <ul style="list-style-type: none"> <li>Petroleum products and flammables</li> <li>Prescription and over-the-counter drugs</li> <li>Household hazardous substances</li> <li>Solvents, paints, etc.</li> <li>Antifreeze</li> <li>Cigarette butts</li> </ul> |
|--|--|---|

Design Criteria for Flow in Millions of Gallons per Day (MGD)	
Average Annual	1.44 MGD
Maximum Monthly	2.05 MGD
Maximum Daily	2.92 MGD
Peak Flow	5.27 MGD