

Active Wastewater Treatment



Providing clear results for your wastewater problems....

Active Wastewater Treatment

*We are prompt, professional and local.
We are committed to the highest level of service to our clients.*

- Providing responsible environmental solutions to even the most difficult wastewater stream
- Meeting all GVRD and Ministry regulations



Active Wastewater Treatment

*We are the first Hazardous Waste Management Facility in BC to receive approval of the **Section 4 Operational Plan** from the Ministry of Environment.*

*We have received a permit from Environment Canada for **export** of hazardous waste to the US.*

Active Wastewater Treatment

Reduce your exposure to environmental liability and costs associated with environmental compliance.

Give yourself peace of mind that your wastestream is meeting all discharge standards.



Active Wastewater Treatment

- Reduce your operating costs
- Eliminate the need for costly and time consuming wastewater discharge permits
- Eliminate the need for wastewater facilities construction and maintenance
- Focus on your company's core business
- Let us manage your regulatory compliance



Working to protect our BC environment

Some of the Industries We Serve



- Aerospace
- Chemical
- Food processing
- Manufacturing
- Marine (bilge and bunker sludge)
- Mining
- Petroleum
- Plating
- Printing
- Transportation
- Construction

Wastewater Streams

we currently treat.....

- Used anti-freeze
- Oily wastewater
- Cooling water
- Bunker sludge
- Bilge water
- Food processing wastewater
- Concrete wash-water
- Waste contaminated with jet fuel
- Waste oil
- Motor oil
- Printing industry wastewater
- Refinery wastewater
- Latex Paint waste
- Plasma Cutting wastewater
- Metal contaminated wastewater
- Waste corrosives



Compliance

AWT's treatment facility operates under two primary permits:

1. Greater Vancouver Sewerage and Drainage District Waste Discharge Permit
2. Ministry of Environment



Compliance with Environmental Legislation

- Environmental Management Act
- Hazardous Waste Regulation
- Spill Reporting Regulation
- GVRD Sewer Use By-law #164
- Delta Sanitary Sewer Use Regulation and Connection Charge Bylaw #3583, 1982
- Transportation of Dangerous Goods Act and Regulations
- WHMIS Legislation and Worksafe B.C. Legislation
- Delta Fire Department Guidelines
- Environment Canada Legislation
- US Regulations (where applicable)
- Health Canada Legislation
- British Columbia Used Oil Management Association Regulations



Consulting Services

We provide cost-effective solutions specifically tailored to your waste stream.

Wastewater can be treated at Active's Delta facility



OR

We can custom design, engineer and install custom wastewater treatment systems at a client's site.

We deliver prompt, courteous, service with highly trained professionals.



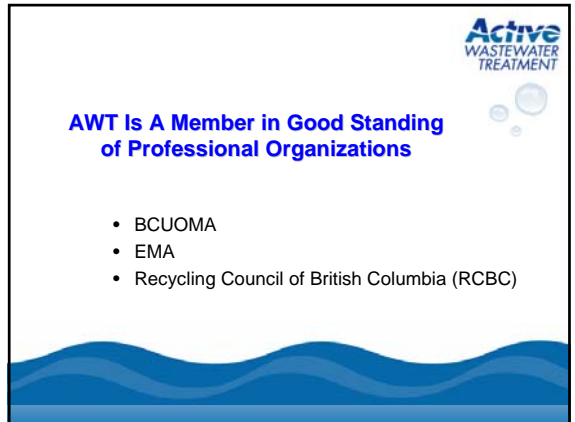
These are just some of the companies AWT has been audited and approved by.....

- Air Canada
- Alcan
- B.C. Ferries (Environmental Performance Review)
- Imperial Oil
- Holland America Line
- Ingenium Environmental Consulting
- Morrow Environmental Consultants
- Norwegian Cruise Line
- Safety-Kleen/ Clean Harbors
- Shell
- Scott Stephenson Consultants Inc. (Risk Assessment)
- Chevron
- Tymac Launch Service Ltd.
- Deere-Hitachi
- Canadian Auto Parts Toyota
- Greystone Environmental Consultants Inc.



AWT Is A Member in Good Standing of Professional Organizations

- BCUOMA
- EMA
- Recycling Council of British Columbia (RCBC)



Industry Approved

- Active Wastewater Treatment has been approved by BCUOMA as both a Processor and a Collector.
- We are able to issue Return Incentive on eligible oil.



Client Testimonials

Deere-Hitachi Specialty Products

The result of using Active Wastewater Treatment Services 'has been a savings in capital, personnel training and operating costs for our company.'

-Mike Schlender

Operations Manager, Deere Hitachi



Client Testimonials

Tymac Launch Service Ltd.

'Using Active Wastewater Treatment Services enables our company to meet all GVRD and Ministry environmental regulations with confidence.'

-Jim Phillipson

President, Tymac Launch Service



Active Wastewater Treatment provides...

- Assistance with preparation of ALL required paperwork
- Customized solutions for your wastewater stream
- Containers for any volume of wastewater collection
- Consultative expertise with highly trained professionals
- Off-site processing
- Economical pricing
- Prompt and courteous service
- Peace of mind that all regulatory standards are being met

We have the technology, facilities and expertise to manage all your wastewater requirements.



Approving New Wastestreams

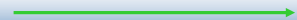


Approving New Waste Streams

→ Step 1: General Profiling of the Waste Stream

- Complete Active's **Wastewater Profile**
- An Active Wastewater representative will assist in completing the preparation of the **Wastewater Profile**

The Wastewater Profile provides general information regarding the waste stream and assists in classifying and planning the correct treatment.





Approving New Waste Streams



→ **Step 2 : In-House Treatability Study**

- An Active Wastewater Treatment representative collects a 20L sample of the wastewater
- This sample is analyzed at the Active Wastewater Treatment laboratory to determine the treatability of the wastewater
- The In-House Treatability Study normally requires 1-2 days



Approving New Waste Streams

→ **Step 3 : Determining if the Waste Stream Meets AWT's Acceptance Criteria**

If the wastewater passes the **In-House Treatability Study**, AWT will check if the wastewater is authorized under both the GVRD and Ministry permits.

If Yes → **Active Wastewater Treatment can now accept the wastewater for treatment**


If No → **A Demonstration Trial is required**



Approving New Wastestreams

→ **Step 4 : The Demonstration Trial... if required**

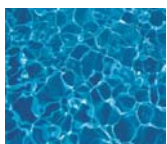
- A 10,000L-20,000L sample of wastewater will be recovered and transported to the Active Wastewater Treatment facility
- Samples of raw wastewater and treated wastewater will be collected and submitted to an independent laboratory for testing
- A report of the findings is submitted to GVRD and Ministry for approval
- A **Demonstration Trial** is completed only once for each type of wastewater
- A **Demonstration Trial** takes up to 4 weeks to complete



Active Wastewater Treatment

We are one of North America's most advanced treatment systems incorporating electrocoagulation

- Low usage of chemical reagents reduces sodium, sulfates and chlorides
- Wide pH range acceptance minimizes the need for adjustment
- Contaminant concentrations in treated wastewater are far lower than most chemical processes can achieve
- Less sludge
- Greater potential for water reuse
- Treated wastewater meets or exceeds all regulatory standards for discharge





Active Wastewater Treatment Process





Active Wastewater Treatment

Once approved for treatment, the wastewater is collected and delivered to our treatment plant.

1. Containers for collection range in size from:
 - 200 litre drums
 - 1000 litre totes
 - Tankers with 45,000 litre capacity
2. The wastewater is off-loaded in containment area and transferred to tank farm.
3. The tank farm capacity is approximately 600,000 litres.
4. A sample of the wastewater is recovered during the off loading to ensure it conforms with the previous wastewater profile



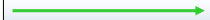
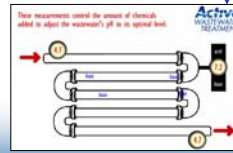
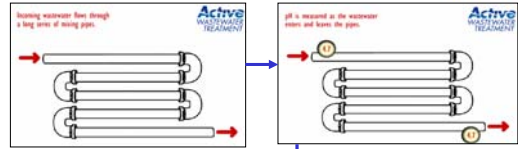

Active Wastewater Treatment

For wastewater containing 3% or more oil content, the oil is first separated from the waste stream using demulsifiers and an oil/water separation tank.

Recovered oil is then processed through a centrifuge to clean it. The water is transferred to the water treatment area.



Active Wastewater Treatment Step 1: pH Adjustment

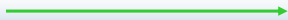


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Step 2: Electrocoagulation



Electricity, rather than chemical reagents, is used to flocculate the heavy metals, suspended solids, emulsified organics and other contaminants.



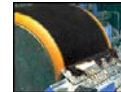
Active Wastewater Treatment

Step 3: Contaminant Removal

Flocculated contaminants are removed from the wastestream using either:

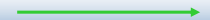


OR



DAF-Dissolved Air Flotation Tank paired with a Filter Press

Air Rotary Vacuum

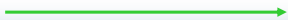


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The Rotary Vacuum

The rotary vacuum removes the solid particles from the wastewater.

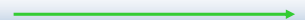
- Removes particles as small as 1/2 micron
- Wastewater is drawn through the centre of the drum
- A vacuum is maintained on the drum so that contaminants are sucked to the surface of the drum
- Contaminants are then scraped from the surface of the rotating drum



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Sludge

- Sludge is collected from the air rotary vacuum or filter press
- It is tested before it goes to an approved disposal facility

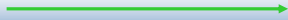


Active Wastewater Treatment

Further Polishing of Wastewater

Step 4: Primary Filtering

The treated water passes through a series of multimedia filters to remove any remaining contaminants.



Active Wastewater Treatment

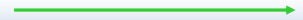
Step 5: Ozone Treatment

The treated water is then transferred to the Ozone Treatment System.

This oxidizes and precipitates any remaining contaminants and it also disinfects the water.



If required, UV and hydrogen peroxide treatment can be conducted at this stage.



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Step 6: Secondary Filtering

Water passes through another multi-media filter to remove any contaminants oxidized or precipitated by earlier stage



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Step 7: Carbon Filters

- The water passes through a series of carbon filters for a final polishing



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Step 8: Discharge

- Water is released to sanitary sewer under Permit
- All discharge is tested to ensure discharge standards are met.



Active Wastewater Treatment

We are committed to the highest level of service to our clients.

Call us Today!

Toll Free

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Active Wastewater Treatment Plant



**We Look Forward To Serving Your Wastewater
Needs!**

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