

## French Creek Pollution Control Centre

The French Creek Pollution Control Center (FCPPC) is a Class IV secondary wastewater treatment facility owned and operated by the Regional District of Nanaimo for the communities of Parksville and Qualicum on Vancouver Island. The FCPPC staff of six, all certified operators, are responsible for not only the FCPPC treatment plant but also the Nanoose Pollution Control Center (primary treatment plant), fourteen pump stations, interceptors and all force mains.



The FCPPC was originally built as an activated sludge plant with the capability of handling 12,000 person capacity. The upgrade of this facility for the increasing population was started in December 1994 and completed in July 1997.

### Process

- Septage handling with a 20,000 gallon dilution tank
- Headworks with grit removal and compaction of waste to a hopper
- Primary sedimentation
- Trickling filter with both influent and effluent wet wells
- Solids contact tank and secondary clarifiers
- WBS building for secondary solids thickening, parshall flume, sand filters for reclaimed water. Skimming from all sedimentation tanks go at this time to the ATAD along with the secondary solids.
- Three cell ATAD with two cooling cells and a 20,000 gallon cooling tower
- Parkson one metre press with all solids to land application
- Foul air tower scrubbers for foul air from the headworks, septage and ATAD areas. Foul air from the covered primary tanks and solids contact area go to the bottom of the TF.
- Bio-filter for foul air from the belt press area
- Effluent recovery for Eaglestar Golf Course, wash water and watering of the landscape.
- Scada system for the plant operations, including remote controls from the main pump stations. Septage monitoring, weather station and a Maximo maintenance program.
- Outfall to ocean (7,000 feet long and 20 feet deep) with effluent turbines to force effluent out when gravity system cannot handle flow.



### **Facility Upgrade 1997**

In 1992 the Regional District anticipated the need for a plant expansion at their Parksville facility. With current growth projections (now increased from 1975 estimates of 48,000 to 60,000 people), the Regional District was challenged with selecting an upgraded plant design which would meet these expansion needs in a now residentially surrounded and limited site. To meet this challenge, a process change from activated sludge to trickling filter solids contact was selected. This selection reduces the expansion footprint requirement significantly, reduces energy requirements and meets the 60,000 people capacity objective.

The upgrade is further complemented by a decision to change to an autothermal thermophilic aerobic digestion (ATAD) away from the conventional aerobic digestion process. The ATAD saves space and is entirely constructed within the 12,000 person capacity aerobic digester (yet provides for 60,000 people). This digestion process change results in producing an EPA 503 Class A biosolids that is available for immediate use.



The French Creek Pollution Control Center is energy efficient, produces Class A solids, and achieves a final effluent of quality consistently significantly better than that required by permit, is an operator friendly facility that, through PLC control, provides improved operations, improved process control, collection of historic trending information for troubleshooting, equipment operations data for maintenance management, reporting and better work environment.

*Thanks to Harold Halvorson, Chief Operator FCPC.*