

## WHAT INFORMATION SHOULD YOU BE AWARE OF WHEN PURCHASING A SEWAGE TREATMENT PLANT?



### What Systems are out there?

There are two basic types of treatment plant that could be used on a commercial site; that of aeration or fixed film processes such as provided by trickling filters (Diston's UTB).

Of these two types of systems, the experience is that using aeration systems are fraught with problems of maintaining critical biomass through the extended periods of low use and also the high peak loads as experienced in roadside stop sites, hotels, restaurants, resorts & school facilities & during extended non-use periods. On the other hand a trickling filter process recirculation has a demonstrated capability to withstand the difficult operating conditions that may be experienced at sites with high variation in use. This together with a need to cater for the high organic loads during the busy periods has shown that aeration processes do not treat the waste adequately during the peak periods this in turn results in excessive organic loading on disposal or reuse systems downstream. In the short to medium term system failures become evident where insufficient attention is paid to the peak load needs of these facilities. Generally, Diston's experience is that sites with high variation in use are assessed for the loads that they experience – consequently our company has been involved in a number of expensive upgrades and retrofits to these systems across the state.

Potential purchasers are therefore advised to be cautious in selecting treatment systems that are not robust nor have the approved capability to treat the flows or peak organic loads where loads are variable and peak loads are above the approved design treatment limits as set out by the EPA in their approval certification of plants. Purchasers should request to view the official E.P.A. approval for the plant selected to inform themselves of potential shortfalls in treatment performance.

### What to ask the manufacturer:

#### What backup systems are in place if there is a power or mechanical failure?

Sewage is a harsh environment in which mechanical componentry is subject to corrosion and wear & tear. Unfortunately a lot of sewage treatment plants out there do NOT have any standby pumping systems or flood storage facilities in the event of power or mechanical failure. Therefore if a component such as a pump fails or a power failure occurs, the system will fail resulting in potential odour problems or even illegal discharge issues. Diston Wastewater Technology Wastewater has catered for these issues in the design of their systems.

#### How much energy does the plant consume?

Power consumption depends on the nature of the waste being treated. Diston Wastewater Technology design their treatment plants with this in mind. However, Diston Wastewater will not sacrifice power over reliability as all electrical equipment is heavy duty & top quality. This will potentially save money as breakdowns are very expensive. (extra costs are incurred with the need to desludge to access componentry).

### **What are the Operating costs?**

There are a number of consumable & service items required to run a sewage treatment plant efficiently, such as maintenance, chlorine (if required), attrition rate on pumps, electrical & mechanical components, power consumption, replacement of UV Lamps & quartz sleeves (if fitted) and analysis of STP effluent for BOD, SS, E-Coli & Total Residual Chlorine. Any manufacture that says there is no on-going or desludging cost required is just after a sale & not interested in any continuation of business. (all sewage treatment plants will require desludging at some stage).

### **How often does my plant require maintenance?**

The amount of maintenance depends to a large degree on what you as the owner are prepared to do. Usually Diston Wastewater Technology recommends that STP be maintained by a qualified technician no less than every 3 months. Desludging should be carried out every 3 years.

Warning: Some manufacturers provide inadequate sludge storage facilities, requiring expensive 12 monthly or shorter desludging to maintain approved treated effluent quality.

### **What if something goes wrong how much will it cost?**

Diston Wastewater Technology is committed to client satisfaction & prides itself on reliability of its treatment systems, so if something does go wrong they will make every reasonable effort to rectify the fault quickly and efficiently.

### **Will the manufacture be able to fix the problem in time before the system causes any flooding or odour issue resulting in failing effluent quality?**

A number of failsafe systems are installed in Diston Wastewater Technology systems such as excess flood storage capacity, battery backup on switch gear & backup (duty & standby) pumps. Also all Diston Wastewater Technology systems are based on a fixed medium process. This means that unlike aeration sewage treatment plants the micro-organisms response for treating the waste cannot be flushed out of the system when the process is restarted in a flood condition or Hydraulically overloaded..

### **Is the STP above or below ground?**

Above ground systems take up a lot of space and are anaesthetically unappealing. However they are usually far less expensive than below ground systems. Below ground systems are more aesthetically appealing but must be installed in concrete as poly tanks have a tendency to float out of the ground & crush underground pressure when pumped out. Depending on what you are after, Diston Wastewater Technology can install above & below ground systems. All our below ground precast concrete sewage treatment plants have been engineered for in-ground suitability. Make sure that when purchasing an above or below ground precast concrete sewage treatment plant that certified engineered computations are provided for the suitability of the application.