
Treatment Systems for Leachate

Engineered Systems: Leachate Treatment

Case History: Llandulas Leachate, North Wales

Background

The Waste Recycle Group/May Gurney installed a leachate treatment facility with a specifically designed plant incorporating a circular aeration tank. Previously all leachate was tankered off, site, untreated.

The plant is designed to provide treatment of the leachate to the requirement of Welsh Water. Prior to discharge into the local sewer.

The plant is fully automatic via PLC (Programmable Logic Controller) with SCADA system (Surveillance, Control and Data Acquisition) to record performance and faults.

Provision is made for a standby generator to back-up the system in the event of a failure of the site generated power system.

A modem (phone link) enables the PLC and SCADA system to be checked and modified remotely, initially by the supplier (Satec) and finally by the Owner/Operator

Equipment

Leachate Feed Balancing Tank

Leachate Balancing Tank Feed Pumps (LFP1 and LFP2) Containerised

Aeration Tank with Aerators (A1, A2, A3 and A4 [future])*

Aeration Tank Monitoring for DO & Liquid Temperature

Caustic Soda Dosing System with pH control system in Aeration Tank

Phosphoric Dosing System with quantity dosing into the Aeration Tank

Final Effluent Balancing Tank

Final Effluent Flow Rate Control and Shut Off System

Flow Meters for Leachate Feed, Treated Effluent Leaving Plant and Site.

MCC with PLC and SCADA systems

Provision for Standby Generator with Manual Change Over

Container incorporating MCC, PLC, SCADA & Instrumentation in one section and Laboratory in the other section.

External flood Lights

* Three aerators are fitted now with the provision for a fourth in the future. The program and SCADA is configured for 4 aerators with the fourth registered as “unavailable” until future. Space is allowed for electrical hardware to be fitted for the fourth aerator in future.

