



History of Darebin Parklands Leachate and Treatment System

To understand the leachate system it is best described by using the analogy of a bath tub. The bath tub is the empty quarry. Fill the bathtub with any rubbish from you house, food scraps, oils, paints, car parts, plastics etc. Now you have a full tip. Now turn on the tap so it's dripping constantly. The tap is the watertable. After a while the bath will fill up with a cocktail of polluted water and will overflow onto the floor, the floor being the Darebin Creek. This is how the leachate is generated here at Darebin Parklands but of course on a more dramatic scale.

The leachate of Darebin Parklands like all things matures and changes with age. When it was first analysed for example the generation rates were around 810KL per week. At present it is around 300KL per week. This goes for the pollutants as well with significant reductions in heavy metals. For example Ammonium which was originally 46% per litre, is now around 18%. This is before any treatment takes place. So the leachate is changing for the better with age.

The system in place at Darebin Parklands is more about containment rather than treatment as the system at present is only effective at treating the leachate in the warmer months of the year.

To date the system has protected the Darebin Creek successfully whilst 260 million litres has passed through our biofilter and treatment ponds in the past 16 years.

The system schematic can be found on page two.

The system has a failure contingencies built into it to further protect the Darebin Creek, for example the power is out for a period of time. Firstly, the collection sumps can hold up to 72 hours of excess leachate before seeping over to the slope down towards the creek. Secondly, following the Darebin Creek Shared Trail below the sumps is a geotech membraned sub terrian swale, which catches

any overflow. This 72 hours enables Rangers to set up petrol/diesel pumps and bypass the need for electricity until the power is back on.

The system still has its challenges, including keeping the water oxygenated, preventing thermoclines, and excessive salts (TDS) being the main issues. We strive to improve the system annually and improve the quality of leachate whilst disguising the treatment system as a natural feature of the park.



