

Clever Use Of Existing Infrastructure to Minimize Construction Cost Tally Ho Stormwater Harvesting Project

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Tally Ho Reserve stormwater harvesting system has been successfully operated for more than a year now. It is not the typical configuration adopted in stormwater harvesting due to the source water location and quality as well as the existing infrastructure for the Sienna Falls estate and the buffer tank for irrigating the reserve. The lake is a terminal point for stormwater to collect within Sienna Falls which means there is no outfall. The stormwater must be pumped out to council stormwater network south-east in the vicinity of Tally Ho Reserve to maintain appropriate water levels in the lake. This is achieved with a 225mm diameter pipe and 2 large pumps to cater for the 100 year ARI storm.

The water quality investigations revealed elevated levels of pH, salinity and turbidity. Pathogens were reasonable although it was recognised they can be highly variable. The former has some risk of affecting the turf over the long term and pathogens are a human health risk.

Utilising the infrastructure, particularly the rising main, was critical to minimise the construction cost. The rising main passes in between buildings and under roads so adding an additional rising main along this route would have been relatively expensive. There were 3 key options that were explored for the rising main and the final solution was one that did not hinder the stormwater pump operation in any way and did not rely on complicated controls.

The harvested water is being pumped at a low flow rate to minimise the size of new infrastructure required for transfer and treatment by disinfection.

The existing above-ground buffer tank and irrigation pump was utilised as well. It inherently became part of the optimised buffer storage volume for irrigation and, perhaps more importantly, it allows appropriate shandy of lake water and mains water when required to achieve the desired water quality for irrigation. This is all automatically controlled by sensors with alarms sent when pre-defined triggers have been activated.

This project is also a great example of integrating the plant shed into the surrounds which is now a playground.