

# case study

## STORM WATER HARVESTING

Hornsby Shire Council

Berowra Oval, Berowra

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The permeable paving acts as a low maintenance GPT to capture and filter the low flows

### Clients Brief:

A concept plan was prepared by Hornsby Council with the objective being to harvest and treat storm water run off from an urban catchment area of Berowra and re-use the treated water on Berowra Oval. Watermatic Irrigation was awarded the job of completing the design and constructing the system.

### The Challenge:

The storm water was to be harvested from a single discharge point that had a dry weather base flow of approximately 0.5l/s. It was to be pre-treated using a passive Gross Pollutant Trap (GPT). Instead of using a traditional GPT, Council opted for a new low maintenance system that is designed to improve water quality flowing into the harvesting system only.

### Our Solution:

We installed the GPT which was a small section of permeable paving laid over a bed of fine gravels and sands. The water passes over the paving and filters through the media before being gravity fed into a 90kl underground concrete tank. The permeable paving allows low flows to infiltrate, but large flows containing debris will pass over the top and continue downstream to the next GPT. Watermatic Irrigation designed and installed the submersible pump, filtration, supply pipes and pump controller. The submersible pump transfers the pre-treated storm water up to the irrigation header tank (approximately 300m away with a 20m lift) via screen and UV filtration, on demand. The filtration and pump controller is located in a custom built masonry plant room.

The existing irrigation header tank holds the treated water for use on the oval irrigation system. The chance of the harvested water running low is minimal, but if it does an automatic town water top up was installed to ensure constant water is available for the irrigation system.

All components of this project were delivered by Watermatic Irrigation 'in house', except for excavation and electrical connections.

### Outcomes:

This installation could potentially eliminate the reliance on town water for irrigation, saving over 1 000 000 litres per year. The low maintenance GPT will mean lower maintenance costs.



The custom designed panel controls and monitors the system.



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