



## City of Joondalup - Reduction of water use for irrigation and hydrozoning

### Synopsis

The City of Joondalup has demonstrated its commitment to conserving precious water resources through its participation in the Waterwise Council Program and ICLEI Oceania Water Campaign™. The City has implemented a number of measures over the past two years to reduce water consumption. The implementation of strategies, regular monitoring and keeping the community informed, has been critical in the City's water conservation success to date.

### Motivation

The 2008/09 financial year was the first year that the City monitored its groundwater consumption through meters that were installed on all of its bores. At the end of the year it became apparent that the City had used more than its allocation of groundwater across its three groundwater licence areas (GWLs). The City realised that several key water saving initiatives needed to be implemented immediately in order to achieve its water conservation objectives and to become a successful Waterwise Council Program participant.

### Process/Approach

In order to reduce the amount of water being used within the City's irrigation operations, a number of key initiatives were introduced, these included:

- Reducing irrigation in active reserves with sports surfaces from 80% to 70% Net daily Evaporation (Epan);
- Reducing irrigation in reserves used for passive recreation for 60% to 40% Epan;
- Reducing irrigation on most road verges and medians to 40% Epan;
- Hydrozoning in active reserves by reducing irrigation in parts of the park used for passive recreation;
- Development of a City of Joondalup Landscape Master Plan; and
- Implementing landscape master planning principles, which aim to reduce water without affecting amenity, to City landscaping in parks and on arterials roads.

### Monitoring

The City monitors its groundwater consumption through monthly recording and collating of readings from meters installed on all City bores. This monitoring allows for the City to regularly gauge its water usage and to better manage operations accordingly. An internal report is produced each month including:

- Consumption for the month and for the year to date;
- Comparison against the annual allocation for each GWL;
- Comparison against the City's performance in previous years; and
- Performance is also plotted graphically against a water budget guideline which indicates where the City needs to be at a given point in time.

# Waterwise Council Case Study



## Savings/Benefits

The 2008/09 financial year was the first year that the City had effectively monitored its water consumption for irrigation using meters on its bores. The introduction of hydrozoning, landscape master planning principles and monthly monitoring resulted in the City reducing consumption from 26% over allocation to 21% under, which equated to the City being 853,689kL under allocation for the 2009/10 financial year.

The City implemented a Landscape Master Planning Project at Emerald Park in 2009/10 which included replacement of irrigation infrastructure and establishment of hydrozones. Through these measures the City consumed 51% less water at Emerald Park in 2009/10 compared to the previous year.

## Costs

There are significant costs involved in installing meters on bores and the cost to maintain the existing mechanical meters is significant. There are also costs associated with Landscape Master Planning in parks relating to upgrades of irrigation infrastructure including bores, pumps and control cabinets. However, the implementation of hydrozoning can reduce operational costs.

The City trialled Landscape Master Planning at Emerald Park in Edgewater and three hydrozones were established through the Project. The active playing surface was maintained at 70% Epan, an intermediate zone was established around the playing surface for spectators and passive recreation and a mulch hydrozone was established in the outer sections of the Park. This resulted in a 51% reduction in water usage and a significant reduction in operating costs as there is less turf to maintain.

## Lessons Learnt

Some of the lessons that the City has learnt in its endeavours to become a Waterwise Council include:

- The importance of regular monitoring and reporting on water consumption – this allows for timely and effective management of water consumption; and
- The importance of keeping the community informed of initiatives and the rationale behind them – the City has found that the community are more open to water conservation initiatives if they are kept informed e.g. through signage, advertisements and newspaper stories.

## Further Information/References

<http://www.joondalup.wa.gov.au/Explore/ParksAndReserves/IrrigationandWaterRegime.aspx>

## Contact Details

For further information on the City's water consumption, irrigation and landscape master planning program for parks contact the Environmental Technical Officer on 9400 4593.

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