

Water Conservation

Urban Sustainability Project
Case Study 2



Council: Coolamon Shire Council

Theme: Water Conservation

Project Name: Coolamon Recycled Waste Water Storage

Project Summary

Financial

Total Cost	\$160,423
Grant Funding	\$100,300
Estimated annual savings	\$55,000 +

Environmental & Community

	TARGETS	ACTUAL OUTCOMES
Water saving through conservation	20 megalitres in first year	34 megalitres
Percentage of materials used with recycled content	100%	100% of earthworks
Number of individuals engaged in project	350	500
Number of stakeholders engaged	4	Approx. 8

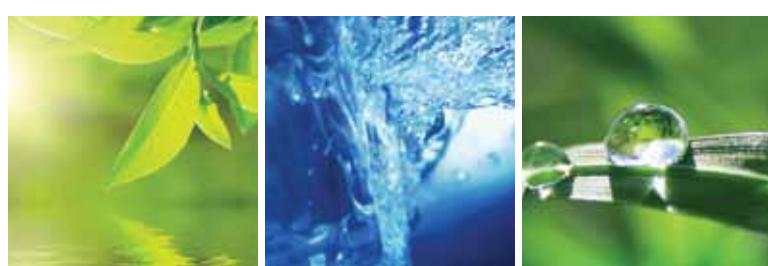


Construction of the Primary Treated Effluent Storage Dam

Overview of the Project

Approximately 5 years ago Coolamon Shire Council commenced long term planning of the Kindra Park Sporting Complex. The plan incorporated existing waste water storage facilities with a pressurised main from the existing treated waste storage ponds at the Coolamon Sewerage Treatment Works to the Coolamon Golf Club Storage dam. Planning incorporated an additional storage of 30 to 40ML at the Coolamon Showground to conserve reserves of recycled water which were lost during winter months.

This project was for the construction of



the planned 30 megalitre storage dam. The dam captures the recycled water from the existing waste water treatment plant, to be distributed onto sporting ovals within Coolamon township. The dam was constructed on the Coolamon Showground approximately 300 metres north west of the treatment pond site. Excavation and construction of the storage dam commenced in January 2009 and the project was completed within six months in July 2009.

The design of the Showground Storage Facility consists of two dams. The first or Primary Dam (30 ML - 8 M deep), being the main storage provision for normal daily operations. The second or Reserve Dam (10ML - 4 M deep) caters for extra storage in times of wet weather, when the Primary Dam is full. In times of high water usage, (eg summer) the extra water stored in the Reserve Dam is transferred to the Primary Dam.

Treated effluent is transferred to the primary dam using gravity lines from the treatment ponds. It is then pumped into the dam at Kindra Park using a sun tracking solar panel pump unit via a pressure rising main. At Kindra Park storage dam the water is treated so that it is suitable for use on the sporting fields. A multi stage pump station then dispenses the irrigation needs for all Kindra Park sporting groups including the Jim Thompson Sporting Fields, the Senior and Junior AFL ovals and the Coolamon Golf Course.

The design of the return pumping system from the Showgrounds to the treatment ponds consists of a floating pontoon with a submersible pump mounted just under the water surface. The pressurised delivery line (300 metres long) continues back to the treatment ponds.



The Primary Dam will hold 30ML at full capacity

Benefits and advantages

The project resulted in broad community education about the benefits of water conservation. During and following construction user groups eg Coolamon Sport & Recreation, Coolamon Touch Association, Kindra Park Trustees, Coolamon Rovers Australian Rules Football Club (juniors & seniors), Coolamon Cricket Club, and Coolamon Golf Club, became more aware of the significant environmental advantages and economic benefits of the project to their community and sporting facilities. A presentation was made to the 'Canola Adventurers', a senior citizen community group (approx 40-50 people) mid 2009, and to the Coolamon Central School (approx 40-50 students) in early 2010.

Apart from the water savings through recycling of waste water, additional water savings were achieved with the two dam system. The two dam system reduces the significant evaporation and seepage losses that occur with a single large shallow storage area.

The success of the project in the 12 months since its completion has been better than initially expected. A water saving of 20 megalitres had been forecast in the first year, however the Primary Dam storage has reached 85% capacity already. At full capacity the dam will generate over \$50,000 in water savings if water was drawn from the potable water town water supply.



The provision of the 3 panel sun tracking solar pump unit was an innovative measure to save the significant expense that would have been incurred installing 3 phase electricity to the site. This resulted in a direct saving of \$15,000 on the capital cost of the project. Additionally the generated electricity saves an estimated \$5000 per annum on running costs for pumping and irrigation.

Background to Total Urban Water Management in the Eastern Riverina Project

REROC Councils received \$1,918,400.00 grant funding in September 2008 from the NSW Environmental Trust for the Total Urban Water Management in the Eastern Riverina project to complete 26 projects. The Urban Sustainability Program aims to facilitate projects of significant environmental benefit to be delivered by local government in partnership with other government agencies, local businesses, and community organisations.

Water access, quality, quantity and sustainability were identified by member councils of REROC as the most pressing issues and projects identified were categorised under five environmental themes; Water Harvesting, Water Conservation, Water Quality, Salinity Management, and Environmental Flows. Read about the other projects on the REROC website www.reroc.com.au



Using solar panels to power the pump unit saved \$15,000 on construction costs and approximately \$5,000 per annum on operational costs



Irrigation of the multi-use sporting fields

