

Racing towards a sustainable future at VRC

Liquid Assets speaks with Paul Doman, Flemington Development Manager at Victoria Racing Club about their ongoing drive for environmental sustainability.

How did the Victoria Racing Club's (VRC) drive to increase efficiency begin, and what was the main impetus?

There's a range of factors, but like most businesses, cost is always going to be a main driver. We have over 330 acres (133 hectares) of land, and managing a site that large comes with considerable cost.

What got the ball rolling for us was the waterMAP program which helped us identify how much water we were using and where we were using it. This allowed us to consider a number of options before we decided to develop a business case and invest in water infrastructure.

How critical is water to your operations?

Without water for the tracks and gardens, the VRC wouldn't be able to exist, and nor would the Melbourne Cup Carnival. So much of what we do is based around a world class racetrack, so we are effectively in the business of growing grass. Without a reliable source of water, we don't have the grass, and without that, we don't have horses. As you can

see, our entire operations here depend on water.

During the recent drought, what challenges did you face?

We learnt a lot from the drought, and as we entered into more severe levels of restrictions, our site turned from being a green oasis to a yellow one, and then at its worst, it turned brown. It was pretty clear then that we had no choice but to invest in alternative supplies or risk our operations.

We looked at a number of options, including sewer mining, but at the time, the technology wasn't where it is today. Traditional desalination brought with it the problems of disposal of the concentrate, however in-situ desalination of groundwater, then a totally new technology, emerged as the most cost effective and sustainable option, so we worked closely with the developer of the process and committed to that option.

Can you explain in-situ desalination?

Flemington sits above a number of underground aquifers around 30 to 50 metres below the

ground. Water is extracted from underground but it's salty, so before it can be used the salt needs to be removed via reverse osmosis and then only the useable water brought to the surface for use in irrigation.

The two initial units have been operating now for three years, and the numbers tell the whole story: We are currently installing a further four units which we hope will increase our production up to 150 million litres of water per year, which is almost half of our entire water use. This not only saves drinking water but has dramatically reduced our water costs.

Our biggest challenge is storing the water that we produce over the winter period when demand is low so that it can be used during the warmer months. We're looking at a number of options, including storing water back underground in the aquifer, but its early days at this stage. With relatively reliable rainfall from late autumn to spring, we use the lion's share of our water from December to March, so finding a viable solution to water storage will continue to reduce our reliance on drinking water.



Water treatment is often an energy intensive exercise – how do you manage the energy requirements of such a setup?

Electricity is a major cost for the VRC, which sees peak demand over the Melbourne Cup Carnival. Yes, we do use more energy, and we're investing and installing solar energy, energy efficient LED light fittings as a way of partially offsetting that. We've installed solar panels on our grandstands, our large screens run off solar power and as the technology advances, we'll expand the use of solar power across the site.

With events, how do you cope with waste?

Waste is a major issue for us, and is becoming an increasing cost. Recycling is the key, and anything that can be recycled is recycled. We actively sort glass, paper, cardboard etc. We are working with a number of our suppliers to look at reducing packaging etc. and that has started to pay off. For example, with food suppliers, rather than their products being delivered in cardboard boxes, are now changed over to reusable

containers that are not only more environmentally friendly, but save tonnes of waste being produced every year.

The VRC deal with any excess food responsibly, partnering with SecondBite who deliver and donate all surplus food to charities.

At a patron level, it's more of a challenge. While most visitors at events are aware of what is recyclable, it's difficult to enforce so we have, in the past, had attendants at bins helping out to minimise the amount that ends up in landfill.

Has the VRC exhausted every opportunity? What more can be done?

There's much more that can be done. From a water perspective, our aim is to treat drinking water as a resource of last resort, which means that we'll continue to look at initiatives that reduce our reliance on it. That includes revisiting sewer mining, as well as investigating greater storage capacity in deeper aquifers. The current in-situ desalination units are continually being tweaked to

accommodate new technologies resulting in an increase in the amount of water delivered.

In the future we hope to build a replacement grandstand of approximately 16,000 square metres. It is hoped to incorporate environmentally sensitive design principles including water efficient appliances, solar power, and greater use of gas in place of electricity. We've also looked into 'tri-generation' and other emerging technologies to reduce our loads in areas such as power, refrigeration and cooling. Again, the site and budget presents some challenges, the review of the various initiatives will keep us busy and challenged for years to come.

What we have found is that until you actually implement or try to implement something, you don't realise how efficient you can be, and once you've achieved those gains, you look around for further savings. With some great achievements already under our belt, that will be our approach to managing our use of resources in the future.