



environs



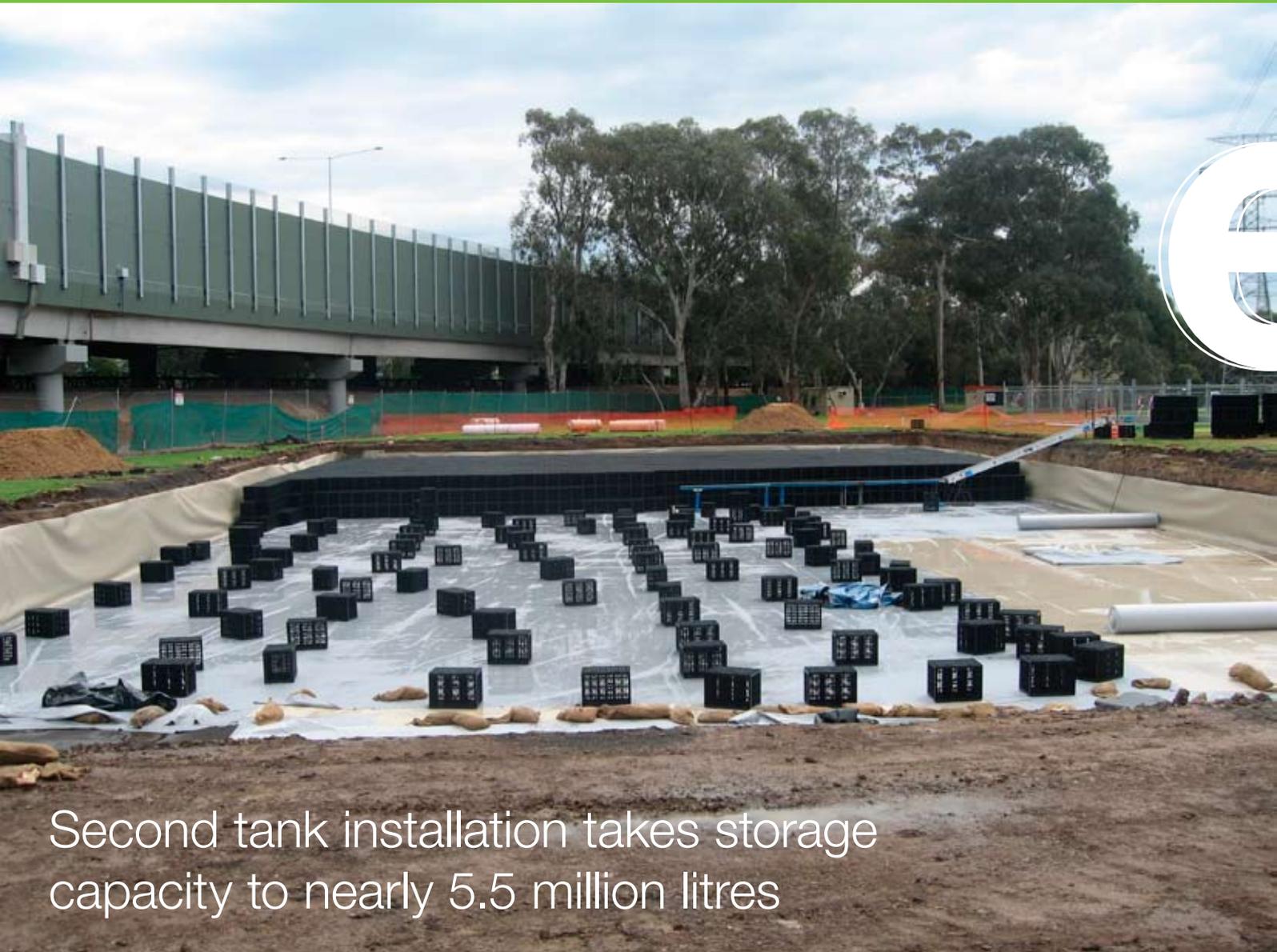
## Scotch on target for water self-sufficiency

Melville Oval storage tank under construction

*Scotch College will soon have the storage capacity to be self-sufficient in water for irrigating its playing fields.*

This remarkable milestone has been achieved through the school's meticulous planning and considerable investment in rain and storm-water harvesting.

The installation of the large water tank under the Melville Oval (pictured above), now underway, is the single biggest facility investment in the water management program made by the School so far. Inside this edition of Environs you can read how the school is approaching the self-sufficiency target in sports ground watering; find out about the environmentally sustainable features of the Junior School Assembly Hall extension, and learn a little about the school's renewable energy investment.



## Second tank installation takes storage capacity to nearly 5.5 million litres

The massive tank is made up of hundreds of pre-fabricated elements like crates

*Work is continuing to assemble a new three million-litre water storage under the Melville Oval.*

The tank is being constructed from pre-fabricated plastic 'crates', which fit together to form a rigid water storage, sealed in a heavy plastic membrane.

When completed and filled, and combined with a similar structure under the McKendrick Oval installed nearly a year ago, the school will have underground storage for nearly 5.5 million litres of storm and rainwater.

The school's grounds staff have calculated that this amount of water storage should be enough to see the school through a full summer of irrigation for all the school's ovals.

Garden areas will still rely on water from the city's potable water supply. But acting Grounds and Gardens Manager, Dallas Lyons, says this will also be addressed by progressively installing additional rainwater storage tanks at various places around the Hawthorn site.

The long-term objective is for the school's grounds to be completely self-sufficient in water supply.

The school's Property and Facilities Manager, Bill Sciarretta, says the site will still rely on potable water for use within buildings, but Scotch's demands on the reticulated water supply have been dramatically reduced.

"What we have done is position ourselves very well for future water harvesting initiatives that could pipe straight into our new tanks and give us a greater level of self-sufficiency when we can't rely on rainwater," Bill says.

"We are now harvesting rain from approximately 60 per cent of our roof space. Our total catchment area that delivers water to our storages is now around eight hectares."

"We've had quite good rains and the tank under the McKendrick was 100% full for summer for the first time this year – that's 2.4 million litres. Of course next season we'll have the new tank, which is another 3 million litres. And of course we can supplement that with water that we are permitted to draw from the Gardiner's Creek," Bill says.

"That's on the supply side. Combine that with the work we are doing to reduce the water requirements of our ovals (see related story on conversion of ovals to drought-tolerant grasses) and we are well on the way to self-sufficiency for irrigating our playing fields," he says.

Yarra Valley Water has recognised Scotch's competence in managing its water supply by permitting Scotch to make its own site water allocations. Yarra Valley Water is reducing Scotch's potable water allocation annually, from 17 megalitres last year to 14 megalitres this year.

"That represents a considerable annual saving and a real community benefit," Bill says.

# Scotch College's Water Management Achievements

## *Scotch almost self-sufficient in water for grounds irrigation*

- Consumption of potable water down to 14 megalitres this year
- Yarra Valley Water allocation reducing by approximately 20per cent a year
- By mid-2010, rain and stormwater storage will be sufficient to irrigate all playing fields during summer
- Progressively phasing out use of potable water for garden bed irrigation

## *Scotch collecting and storing more water than ever before*

- Work started in October 2009 to install a 3 megalitre storage tank under Melville Oval.
- 2.4 megalitre storage tank already installed under McKendrick Oval for harvested / reclaimed water
- Planned interconnection of Melville and McKendrick tanks to permit irrigation of any oval from either tank.
- Eight hectares of water catchment now being 'harvested' on Hawthorn campus
- Morrison Street drains diverted into trunk drain under Main Oval, past scoreboard to new Melville Oval tank.
- Installation of 20,000 litre collapsible tank under Junior School Hall extension to supply rainwater for toilet flushing.
- Use of Gardiner's Creek water for grounds irrigation when creek flow permits.
- Purchase of 4,000 litre mobile water tank to apply harvested water.



Melville tank due for completion by Term 1, 2010

“What we have done is position ourselves very well for future water harvesting initiatives that could pipe straight into our new tanks and give us a greater level of self-sufficiency when we can't rely on rainwater,”

## *Scotch implementing comprehensive additional water-saving measures*

- Improved turf & plant selection, improved mulching.
- Water-efficient toilet fittings & urinals.
- Water-efficient shower heads, tap ware & fit out of basins/sinks.
- Water saving information stickers/ signs.
- Water-efficient clothes washing machines.
- Leak detection (education, incentives, regular inspection).

## *Scotch oval resurfacing scheme saves huge volume of water*

- Main Oval resurfaced 2008-2009 with Santa Ana couch – irrigation requirement reduced 50 per cent.
- Re-surfacing of Meares and Melville Ovals (after Transurban departs the site) with drought-tolerant Santa Ana Couch to be completed during summer 2009-2010 holidays.
- Junior School Oval resurfaced with synthetic PolyGrass, saving 6 megalitres of water.
- McKendrick Oval resurfaced 2009 with drought-resistant grass.
- Sub surface irrigation & enhanced watering regime.



“This is a really good surface. It’s resilient and it likes to be used, so it’s just right for what we need”.

A super surface and big water savings

## One year on, the Main Oval surface is svelte – and sustainable

*The Main Oval is a model of environmentally sustainable grounds management, with its new surface of Santa Ana Couch requiring around 50 per cent less water than its previous temperate-climate surface.*

As the pictures show, the new drought-tolerant grass is in good condition as the cricket season begins, slightly less than a year since the old cool-climate grass surface was stripped, the sub-surface laser-levelled and replanted with the less thirsty couch.

Acting Grounds Manager Dallas Lyons says the new surface is well established and despite some patches the new grass is performing well.

“We water usually two, sometimes three, nights a week which is about half of what we were having to put on previously,” says Dallas.

“This is a really good surface. It’s resilient and it likes to be used, so it’s just right for what we need”.

Dallas says further water savings on a similar scale should be achievable when the Meares and Melville Ovals are converted to Santa Ana Couch during the summer break.

The Melville surface will be restored with drought-tolerant turf once Transurban have departed the Tollway road construction area at the bottom of the Oval and once the new water storage tank there has been covered and the surface levelled.

Both the Meares and the Melville Ovals are expected to have been converted in time for use in Term 1, 2010.

Santa Ana is said to love hot and dry conditions. It is a fine leafed couchgrass which is tough and durable and looks best when mown short. It is excellent for high wear play areas and goes into dormancy for approximately eight weeks over winter when it is over-sown with Rye grass.

“We’ve already inspected and selected the turf that’s being grown to match our needs,” Dallas says. During the holidays, the existing surfaces will be removed, the sites laser-levelled, new irrigation lines installed and more than 3.5 hectares of new turf rolled out on top.

By planting couch grown to maturity on the turf farm, Scotch is able to minimise the amount of water required to establish the new turf surface by the time students return to school in 2010.

Then Grounds Manager, Mick Smith, his deputy, Dallas, and the team will include the Meares and Melville Ovals in their established irrigation planning, which is matched to short- and medium-term weather patterns and forecasts.



The Junior School is set to be transformed

## Energy and water savings feature in Junior School Assembly Hall extension

*Demolition is mostly complete and preparatory construction has begun on an important extension project in the heart of the Junior School.*

Delivering environmental benefits in water and energy savings is a vital consideration in the project, which is being funded under the Federal Government's Building the Education Revolution (BER) program

The project involves extending the Assembly Hall and roofing the central courtyard to provide additional meeting and learning space.

Solar electricity panels will be installed on the roof at the completion of the \$3 million project.

A void in the basement of the newly-covered area is to be filled with collapsible rubber water tanks with a capacity of 20,000 litres.

Rainwater from the Junior School roof will drain into this tank and will be used to flush toilets in Junior School buildings.

Demolition work has mostly been completed. Concrete and steel is expected to be delivered soon for construction to start during the summer holidays.

The project is due for completion in May 2010.



A basement 'void' will contain more rainwater storage

“This will deliver a substantial saving in cost and greenhouse gases across a full year, and that’s a benefit that will continue to be delivered year after year.”

## Scotch College receives funding for solar electricity installation

*Scotch College will install solar panels sufficient to generate 13 kilowatts of electricity.*

Mostly funded under the Federal Government’s National Solar Schools program, the solar panels will be installed on the new roof of the Junior School Assembly Hall extension, and on the Science Building in the Senior School campus.

The Science Building has the highest roof on the campus.

Generating a total of 13 kilowatts, the panels will deliver electricity directly to the school circuit board for use mainly for lighting.

When the electricity from the panels is not being used, such as during school holidays, the electricity will flow back into the general power grid and will earn Scotch credit on its electricity account.

The school’s Property and Facilities Manager, Bill Sciarretta, says the outcome is a considerable benefit.

“This will deliver a substantial saving in cost and greenhouse gases across a full year, and that’s a benefit that will continue to be delivered year after year,” says Bill.

### *In future editions of Environs:*

- Scotch College’s ‘green’ approach to building maintenance and cleaning
- Energy saving initiatives
- Continuing improvement in water management