



environs



Water management is central to maintaining a pleasant learning environment at Scotch

As the 2008 School year draws to a close and we begin to think ahead to 2009, it is appropriate to catch up on the progress Scotch continues to make in meeting the environmental and sustainability challenges that face the School.

Scotch will begin 2009 with sports arenas better able to tolerate dry conditions and requiring 30 per cent less water; a best-practice irrigation strategy in place to reduce the School's dependence on Melbourne's water supply; an environment-friendly boarding house laundry system, and considerable progress made in engaging students and the teaching staff in efforts to make Scotch more environment-friendly.

Read highlights of Scotch's sustainability advances in the following pages.

Scotch takes a strategic approach to reducing its call on Melbourne's water supplies

Scotch has long understood that it needs to reduce the amount of drinking-quality water it uses to keep its playing grounds and gardens in top condition.

With this in mind, the School Council has devoted considerable resources and effort to advancing water saving and other sustainability initiatives within the School.

To plan ways to reduce its dependence on Melbourne's reticulated water supply, the School developed a strategy to give Scotch a degree of water independence.

Property and Projects Manager Bill Sciarretta says Scotch's initial concept for strategically managing its irrigation program included using and redirecting existing internal drainage networks, the construction of underground tanks, and new irrigation reticulation lines that would interconnect with existing irrigation systems within our sporting fields.

Tanks were earmarked for construction underground at strategic locations within drainage catchments and under sporting fields.

The result is a Stormwater Harvesting & Irrigation Reticulation Master Plan which might require \$3 million to implement over a period of years but which will allow Scotch to maintain its vital sporting facilities while consuming much less of Melbourne's precious drinking water.

Engineers Lambert and Rehbein have developed detailed designs and workplans from Scotch's in-house developed Master Plan for the School's irrigation needs and the first stage of the plan is now being implemented, with construction of a 2.4 million litre tank for storage of stormwater and reclaimed water under the McKendrick (soccer) Oval.



The stormwater and reclaimed water storage tank being built under the McKendrick Oval



Bill says that when filled, the tank will provide secure water supply for the Main Oval for a period of approximately 8 weeks over the summer period.

Scotch College Bursar, Ross Congleton, says "we recognised that our ongoing use of potable water for grounds irrigation (which is significant) was an obvious area of risk for the School as we experience reductions in rainfall and warmer days."

"It also seems inappropriate to be expending relatively large volumes of drinking water on our grounds. We are very conscious to act as good community citizens," Ross says.

The considerable effort already made to reduce water demand has seen Scotch more than halve its consumption of potable water, Ross says.

He says the extent of any further reduction in potable water consumption is difficult to forecast. "This will depend on achieving access to adequate sources of reclaimed water. As mentioned, we have already achieved a 50% reduction but it has been at the expense of some distress to our grounds. So further sources of reclaimed water are considered necessary."

The School continues to investigate becoming involved in a 'sewer mining' project, in which water extracted from nearby sewers would be treated and recycled as an additional source of Class A water suitable for irrigation of College grounds.

The School will inform the College community about further developments in this area through this newsletter.





New grasses will make Scotch's sports ovals 30% less thirsty

College ovals receive a water-friendly makeover

Scotch's main sports arenas will soon be better able to cope with prolonged dry periods, with the grounds staff progressively replacing the traditional grass surfaces with summer grasses.

As soon as the last cricket match for the year has been completed, at the end of November, the curator and his team will begin re-sowing the cool season grass surface of the Main Oval with Santa Ana couch.

And once the work is completed to install the new water storage tank under the McKendrick Oval, that surface will also be sown with drought-tolerant summer grasses.

The re-planting is expected to reduce the demand for water for each of these playing areas by 30%. The surfaces should also be much more drought-tolerant and provide a much more durable playing surface in prolonged dry conditions.

Curator, Mick Smith, says that during the winter, when the new grasses are dormant, the quality (and colour) of the playing surfaces will be maintained by over-sowing with winter grass varieties, such as rye and poa annua.

Mick says there shouldn't be any noticeable differences for users. "There shouldn't be noticeable differences underfoot. The main difference however will be that in summer there will be a full cover of lush grass, as opposed to areas that have died off due to drought stress," he says.

The changeover has been planned to minimise disruption to sports schedules. "We have planned the timing of the warm season grass conversion to commence after the last cricket game on the Main oval (November 30 2008) and to be completed and ready for play by the beginning of Term 1 2009.

"So apart from a few practice cricket games to be transferred from the Main Oval to the Meares Oval during the Christmas holiday period, everything else will remain as normal," Mick says.

And apart from its environmental benefits of requiring less water, the new Santa Ana surface "is an excellent choice for sports grounds. It has been used in Victoria since 1980 and still rates better than later varieties for turf quality, shortness of dormancy and winter colour retention, low disease susceptibility, drought resistance and salt tolerance."



New laundry technology saves water, saves energy



Ozone technology spruces up Boarders – and the environment

If you have noticed Scotch Boarders looking a little smarter and better turned out these days, there is a reason: The Boarding House laundry has had a 21st Century spruce-up, with new energy and water-saving technology that delivers cost savings – and a better wash.

Based on ozone technology, the new system has the potential to save 600,000 litres of water and nearly \$4,000 in energy costs each year.

The system requires cold water only and needs just one wash / rinse cycle. Fewer chemicals are required and the ozone system is a more effective germ-killer than conventional large-scale laundry systems.

Property and Projects Manager, Bill Sciarretta, says the new system will pay for itself in four years, while delivering significant environmental benefits.

“The special equipment that was required cost around \$30,000 but it will pay for itself relatively quickly. And as well as the anticipated savings from usage we have been able to retire one of the three washers we had, because of associated efficiencies in operation with the new system,” Bill says.

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Ozone is a naturally-occurring gas which most people know only from its fresh, sweet smell that is sometimes noticeable in the air following a thunderstorm. Ozone has stronger oxidizing properties than oxygen and reacts quickly with a wide range of chemicals, such as laundry detergents. Immediately after the initial reaction, excess gas decomposes to oxygen and is dissipated in the atmosphere.

Bill says the ozone-based laundry system, fitted to the existing laundry machines, acts as a ‘super-conditioner’ for the washing water and the chemicals in it, increasing their effectiveness and reducing the need for hot water and repeat cycles.

Because there is less need for extended washing in hot water, linen and clothes wear less and last longer. Other benefits include:

- > Longer machinery life and reduced maintenance required;
- > Disinfection levels exceeding the official Australian Standard, and
- > Significant financial savings in utilities costs, labour costs, linen replacement and equipment maintenance.

Bill says that on top of all that, the wash quality is better “with whites very white, colours very bright and linen soft to touch”.

And there’s a clincher: ozone acts as a natural deodorizer, giving linen a fresh, clean scent. So the pong from Boarders’ socks might at last be banished – for a while, at least.



All in order in the new veggie patch

Younger students learn about cooperation and patience as they watch their veggies grow

Junior School students are learning more than just how to plant and care for vegetables in their new vegetable patch, according to Scotch Curator, Mick Smith.

He says the boys are also learning about sharing and cooperation in preparing and planting out the plot.

"Along with the fun of getting dirty, gardening helps the boys learn valuable lessons about patience as they wait for the veggies to grow, responsibility as they see how necessary their care is to the veggie garden, and even loss if any of the veggies die," Mick says.

"They learn about nurturing a life and what it takes to keep something alive, also the value of exercise and sharing as they physically work together in the veggie garden."

Mr Andrew Stempel, from the Junior School, and Mr Doug Galbraith, Dean of Boarding both expressed a lot of interest in developing a gardening club for junior students and for Boarders.

"It was agreed a good way to start would be to have a veggie patch. The boys could be actively involved and learn how to grow highly nutritious vegetables without using any poisons or chemical fertilisers," Mick says.

A group of boys, supervised by Andrew and Doug and with Mick's expert guidance, began to plan and prepare the veggie patch in August, when the winter chill was ending.

A small site near the Boarding House was found with the required full sun to part shade position. "Our aim was to create a multi -bed organic veggie garden that featured paths for easy access and two 7000 litre storm water collection tanks to assist with watering of the plants," Mick says.

A shed was installed to store gardening tools and equipment. Five raised beds were built with red gum sleeper borders and about eight cubic metres of enriched organic soil was put into these frames.

The boys planted cabbage, beetroot, carrots, celery, silver beet, lettuce, peas, spring onions and parsley. Members of the Junior School Gardening Club meet during lunch times to tend their four beds and a small group of boarders meet on Saturday mornings to work on their 2.4 metre square patch.

Mick says the boys are getting tremendous benefits from the activity. "I believe one of the most important things about vegetable gardening is understanding where food comes from and the benefits of healthy nutrition, from when the veggies are pulled from the ground to being served up on the dinner plate".

Once the vegetables are ready for harvesting the boys will get to taste the results of their labours. No brussell sprouts yet, though.

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Greening Scotch

Greening Scotch is a committee of staff and students which conceives of ways the school community can make a positive contribution to the environment, then sets about implementing initiatives.

For example, Greening Scotch oversaw the School's participation in the Earth Hour program, achieving an appreciable reduction in energy use.

Greening Scotch has also inspired the institution of regular 'nude food' days in the Junior School – days when students are encouraged to bring and consume food that involves the least amount possible of throw-away packaging.

And recently, School prefects ran a competition urging students to enter suggestions about how the College can save energy and water and make other positive environmental contributions. The winner was awarded a model hydrogen-powered car.

The group enthusiastically encourages the use of recycling bins around the campus and pursues a range of curriculum and student-oriented activities which can have immediate beneficial effects – for example a recent carbon-free barbecue raised money to help buy emissions-offsetting seedlings for planting around the School..

You will be hearing more about the great work of Greening Scotch in future editions.



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Scotch and Yarra Valley Water cooperate to map water vision

Sustainable management of water resources has become an integral part of managing the business of Scotch.

Alongside the construction work now underway to implement the School's stormwater harvesting and irrigation strategy, Scotch and Yarra Valley Water are cooperating to map the use of the School's water allocation.

In line with Yarra Valley Water's desire to help Schools and sports clubs maintain their sports facilities in the interests of community health and wellbeing, the water utility is working with Scotch to measure accurately the amount of water being used on the School's sports fields.

As well as helping Scotch plan its water use, the data helps Yarra Valley Water further educate other Schools, sporting clubs and councils about ways to keep their sports grounds in use during drought.

Curator, Mick Smith, says that by working with Yarra Valley Water to prepare a water map, Scotch comes to a better understanding of the best ways to manage future water use.

The water map is an on-line working document carrying information about the School's:

- > water use history;
- > water consumption data to identify where water savings can be achieved;
- > location of areas of water use around the School campus;
- > water efficiency and conservation;
- > alternative water sources, and
- > future projects and action plans.

“This activity has required us to rethink, redesign and work within the School's water master plan to conserve, treat and re-use water,” Mick says.