



THE LEADER IN RESOURCE RECOVERY

# FACT SHEET

## Hampton Park Resource Recovery Precinct

### Background

During most of 2011, SITA Australia has been refining and upgrading all the processes essential to manage community waste deposited at its Hampton Park Resource Recovery Precinct. Lengthy rain periods have triggered anaerobic activity within the waste, causing early generation of landfill gas that is not usually experienced until the landfill cell is completely filled and capped.

Since identifying the change in anaerobic activity, SITA has engaged with various parties to assist and provide advice on alternative initiatives for addressing the issue of increased landfill gas.

SITA has now implemented a range of initiatives and recommendations including reducing the size of the active waste cell, altering established waste filling and capping practices, installing additional gas collection wells and gas fired generators and installing Australia's first landfill odour neutraliser system of its kind. These changes in operational practice are not only providing innovative solutions to current facility issues, they are also providing a committed response to the changing urban environment in which the Hampton Park Resource Recovery Precinct is located.

### Landfill Operations



*Capped area of Cell 8*

In late September 2011, SITA made the decision to sacrifice the remaining waste void of approximately 40,000 cubic metres in the north-western section of Cell 8. Until then, this section of the landfill was where community waste was deposited and where the increase in anaerobic activity had been experienced. To fill the void and make sure the area reached the approved contour, SITA deposited clean-fill to allow capping works which are currently underway.

Currently, community waste is being deposited in the eastern half of Cell 8. A unique horizontal gas well extraction system is being progressively installed and operated during the waste filling process. For further information, see **Gas Management** below.

Meanwhile, SITA has commenced development of Cell 9A, the newest fully engineered area that will commence receiving community waste by mid-year. Again, the design will apply the innovative operational solutions being progressively sourced and developed by SITA.



*Cell 9A, awaiting Auditor and EPA approval*

### Gas Management

During 2011, SITA progressively installed an additional 25 landfill gas collection wells in the active waste cell. Through regular performance monitoring, it was identified that some of the wells were found to have pockets of perched leachate (water) in the pipes which did not allow gas extraction to operate at its full capacity. To respond to this issue, SITA contracted the services of a specialist company which provides a system that can both pump leachate and extract gas from the cell.



To ensure statutory environmental and community obligations continue to be met, SITA installed additional horizontal gas wells into the current waste deposits. Rather than drilling vertical wells into waste that has commenced anaerobic activity, SITA now places horizontal gas wells on top of fresh waste at 20 metre lateral spacings for each four to six metre rise in the waste. In the future, it is planned to install horizontal wells in a similar fashion in every second waste lift as the eastern half of the Cell 8 is filled.

Once extracted, landfill gas is fed into generators located on site to create electricity. LMS Energy, SITA's landfill gas specialist contractor, currently has six generators on site that convert landfill gas and contribute enough electricity to the network to supply power to more than 6,000 homes. Planning is currently in place for an additional two generators to be commissioned by 2015.



**As well as redefining operational processes, SITA has been actively seeking complementary methods to respond to community issues, including:**

### Odour Neutraliser Curtain

Late last year, SITA installed a **Subtractive Odor Control™** System manufactured by US based Benzaco Scientific.

Benzaco Scientific has many operational sites in the United States using Subtractive Odor Control™ technology. Although never implemented in Australia, analysis of air samples provided by Benzaco Scientific of before and after treatment show reductions in odour intensity of 90% plus.



The system operates by dispersing biodegradable, non-toxic essential oils in a high pressure water misting plume. The plume captures odour molecules creating a chemical reaction whereby the odour is neutralised and eliminated.

The equipment used for this system is approximately 800m long and has been placed around the outside of the active cell. Odour assessments are consistently being undertaken to review performance of the odour neutraliser curtain.

### Rasmar Latex Cover

On 29 March 2012, SITA conducted process trials to assess the effectiveness of utilising a long duration latex foam product that can be sprayed onto the intermediate soil cover as an additional intermediate cover on cell areas awaiting the installation of final gas and capping.

As this process is new to Australia, it was necessary for SITA to import both the product and the equipment necessary to apply the product from the manufacturer based in the United States. A full report of the trial and the results will be available by the end of May.



*Rasmar Latex Foam Cover Applicator from USA.*

*Trial of Latex Foam Cover on active face (29.03.12)*



## Other activities being undertaken by SITA

### Community Reference Group

In May last year, SITA initiated the development of the Hampton Park Community Reference Group (HP CRG). To date, the 10 member group has conducted six meetings, toured the facility and sought advice and expert presentations from key SITA executives, EPA, Metropolitan Waste Management Group (MWMG), Department of Health and Casey Council. The group was provided with the opportunity to provide their view and recommendations regarding the MWMG's proposal for acceptance of non-friable domestic asbestos at transfer stations. Members vetoed the proposal and the project did not proceed. Community members are more than welcome to attend HP CRG meetings. Meeting dates, times, Agendas and Minutes are all available on the SITA website at [www.sita.com.au/community-education/community-reference-groups/vic/hampton-park/](http://www.sita.com.au/community-education/community-reference-groups/vic/hampton-park/).

### On Site Nursery

Under a condition of the Planning Permit, SITA will return the Hampton Park site to Casey Council at a point in time following the closure of the landfill which is set for December 2040. That condition also states that SITA must undertake a rehabilitation program of planting and continual management and monitoring of the landfill beyond the closure. Rather than waiting many years to fulfill this commitment, SITA is looking to commence a facility planting program immediately. To ensure sufficient quantities of plant stock to cover the site is propagated and grown, SITA has commenced discussions with Outlook Environmental to develop a new on-site social enterprise. SITA will provide the infrastructure and funding to develop a greenhouse nursery, while Outlook Environmental will provide jobs and vocational training for disadvantaged workers. The nursery will also offer opportunities for students and universities to research relevant indigenous plants and plant layout design, as well as provide community groups with indigenous plant stock for local environmental projects.

### Education programs

Ultimately, within the landfill area of the Hampton Park Resource Recovery Precinct, SITA is managing the daily receipt of community waste. Although weather conditions over the past 18 months have contributed greatly to the issues SITA is now managing – community attention to what is being placed in general waste bins has declined. Consequently, SITA is committed to increasing awareness of sustainable waste management practices through education. Community groups, schools and businesses are encouraged to visit any of facilities to learn more about the processes behind how we recover valuable resources from everyday waste and sustainably manage the waste lifecycle.

We are currently developing an education program in conjunction with Department of Education, Sustainability Victoria, Resource Smart and MWMG, encouraging schools to join us on a journey of discovery investigating the what, where and why of recycling and waste. For the past 18 months, SITA has been working with Monash University and RMIT Faculties of Science to provide additional research resources to students and encourage scientific careers in resource recovery industries.

### Protecting our buffer zones

Protecting SITA facility buffer zones from urban encroachment is an ongoing project. Over the years, SITA has strongly expressed its view to politicians of all levels, objected proposed urban planning and prepared submissions to a range of government reviews and enquiries. Recently, SITA presented a submission to the Growth Areas Authority objecting to plans expressed in the Draft Growth Corridors Plan for the South East Corridor and, currently, we are preparing a submission to the State Government Waste Policy Review.



## Stay in touch

As a leader in the provision of resource recovery, recycling and waste management solutions, SITA's approach is based on acting locally and understanding local challenges.

We encourage you to learn more about us.

If you want to report an environmental issue, contact the **SITA Environmental Hotline**, a FREECALL 24/7 service

**1800 ENV REP**

**1800 368 737**

If you want us to visit your group or organisation, or you would like your question answered, send an email to

**[vic.communityenquiries@sita.com.au](mailto:vic.communityenquiries@sita.com.au)**

If you want to learn more about how SITA Australia is developing sustainable waste management practices, log on to

**[www.sita.com.au](http://www.sita.com.au)**

*Our natural resources are not infinite and we must work together to protect and nurture them while helping to solve one of the major environmental problems that threaten the planet - the sustainable and ethical management of our waste.*