

STORMWATER NEWS

Down the drain - no gain!

In this issue, *Stormwater News* looks at the growing importance industry is placing on stormwater management. As awareness increases and attitudes change, industry is driving many of the on-ground initiatives needed to ensure stormwater becomes a renewable resource. New technology and management systems are appearing. As this edition of *Stormwater News* demonstrates, Australia is a world leader in some areas of stormwater management.

Urban Stormwater Initiative



Department of the Environment and Heritage

Phone: 02 6274 1684
Fax: 02 6274 2268
Email: garry.reynolds@ea.gov.au

Environment Australia
GPO Box 787
Canberra ACT 2601

<http://www.ea.gov.au/coasts/pollution/usi/index.html>



Pasminco's Innovative Groundwater Approach

Industry meets the Derwent

Pasminco has embarked on a pioneering project to reduce contaminated groundwater flowing to Hobart's Derwent Estuary.

The groundwater issue has been developing over more than 80 years of smelting activity at the riverside smelting site. Historical contamination of groundwater during this time has presented a headache for the present-day operators, with the groundwater slowly, but consistently flowing downhill to the Estuary.

Pasminco is exploring an innovative answer to the problem. Instead of digging open trenches, or drilling many vertical wells to access the groundwater, Pasminco is using a "horizontal" well to intercept groundwater.

Essentially, a well is being drilled 20 metres under existing buildings, connecting near vertical fractures

through which the groundwater is flowing in the rock below the smelter. The horizontal well will work like a pipe connecting the fractures.

The groundwater, contaminated with zinc, cadmium, copper and manganese, will then be pumped back to the Pasminco plant to recover the heavy metals. It is estimated that the horizontal well will intercept more than 90% of the metals in the groundwater in the area of influence.

Pasminco's senior environmental adviser, Mr Merv Kershaw, said the technology had previously been used to access useable groundwater as an alternative to the more common vertical wells and to treat soils containing volatile petroleum derivatives.

"This technique will be far more effective than older

groundwater remediation technologies, which involve digging open trenches, or drilling many vertical wells to access groundwater," Mr Kershaw said.

The technology trialed in this project will set new standards for industry and could lead to further application of the technique on the site and at a range of contaminated sites across Australia.

The Commonwealth Government's Cleaning Our Waterways Industry Partnership Program has provided a \$75,000 grant for this \$369,000 initiative.

For further project information contact:

Mr Merv Kershaw, Senior Environmental Adviser
 Pasminco Hobart Smelter
 ph (03) 6278 4840

Innovative Stormwater Technology

Australia is a world leader in stormwater management technology. Leading the way are companies like Atlantis and Rocla. Along with universities, industry associations and NSW government agencies they have joined forces to target stormwater pollution at Ocean Beach, Manly.

Established by Manly Council, the aim of the consortium is to exploit innovative Australian technologies. It has received over \$540,000 from the Commonwealth Government's Urban Stormwater Initiative to help implement this \$1,315,639 project.

The Atlantis Corporation has developed an innovative stormwater treatment system to capture and treat polluted stormwater so that the urban landscape can function like a natural



ecosystem. It will place special porous pavers along Ocean Beach parking bays. Stormwater will drain through the pavers and filter through sand and a soil containing microbes that digest pollutants. The purified water will then be stored underground and re-used to irrigate Manly's famous Norfolk Island Pines.

Rocla is supplying ECOLOC interlocking concrete pavers that create

drainage voids between the pavers. The system is environmentally sound because it creates a permeable pavement with good load bearing qualities. A demonstration site, at Smith Street, near Ocean Beach will host pavers, placed on an engineered permeable base to allow infiltration to the soil below.

Once works are finished, visitors to Manly's famous

beaches are likely to relate to the old adage, 'seven miles from Sydney, a thousand miles from care'.

"To reverse the current environmental damage caused by urban run-off and sewage we need to reverse the current thinking on water management."
Atlantis Corporation

More information:
Tony Bennett,
Customer Support Manager
Atlantis ph: (02) 9419 6000
or visit
www.atlantiscorp.com.au

Richard Martin,
Sales Engineer
Rocla Pavers and Masonry
ph (02) 9602 7544

Joanne Scarsbrick
Project Manager
Manly Council
ph (02) 9976 1500



Hornsby Council strives for best practice

A Commonwealth Government program has approved \$20,700 of funding for Hornsby Shire Council to showcase some of the best ways to manage industrial stormwater and wastewater.

The Cleaning Our Waterways Industry Partnership Program has provided the funding, while the council has contributed \$73,100. When assessed against Australian and

Council officer monitoring water downstream from Hornsby Shire works depot

New Zealand Environment Conservation Council guidelines, water quality in Hornsby's Larool Creek ranks as 'very poor'. The creek feeds into the Hawkesbury Nepean system, regarded by the Commonwealth as a national water quality 'hot spot'.

While the catchment contains commercial and residential activities, the minimalist approach of some local industry results in these industries becoming a large contributor to stormwater pollution in Larool Creek.

The Council is encouraging best practice

stormwater management by using its works depot, located in an industrial zone, as a demonstration site.

The project will see an upgrade of the depot's truck wash bay and installation of a first flush stormwater detention system. Litter, greases, oils and pollutants will be intercepted before they reach stormwater drains and the creek.

Further information:
Kellie Walters
Team Coordinator -
Environmental Protection
Hornsby Shire Council
ph (02) 9847 6831

Brown firms going green

Australian local and state governments are increasingly partnering industry in stormwater and wastewater recycling initiatives in a bid to alleviate water shortages and reduce pollution of waterways in coastal cities.

The Commonwealth Government, under its Cleaning Our Waterways Industry Partnership Program, provides financial incentives for industry to redirect polluted water for productive use in agriculture, manufacturing and public open spaces.

COWIPP encourages industry to address the 'brown agenda' by reducing or eliminating pollution of urban waterways. The agenda is reflected by national opinion polls showing the quality of local waterways is a major community environmental concern.



Urban and industrial stormwater and wastewater discharges stress many of Australia's rivers, estuaries and bays. Australians are asking themselves why their children can't swim in local waterways as they once did. Families are more likely to catch litter or an infection than a fish in some waterways, while toxic algal blooms, dying seagrass and declining mangroves all signal that urgent action is needed.

COWIPP helps industry reduce stormwater and

Stormwater discharges to urban waterways.
Photos provided by the City of Port Adelaide Enfield

wastewater discharges by using cleaner production and water recycling techniques. It also showcases the effectiveness of nationally significant demonstration projects, recognising that industry is more likely to consider new approaches and technologies if the benefits are proven through practical projects at industrial sites.



For more information see the COWIPP website: <http://www.ea.gov.au/coasts/pollution/cowipp/index.html>

Working with Stormwater

Anyone involved in water management will be interested in what the Australian Water Association (AWA) and the Stormwater Industry Association (SIA) have to offer.

The AWA is a professional membership organisation of around 4000 members. Established in 1962, it promotes the responsible management of the water environment and maintains affiliations with similar organisations both within Australia and abroad.

The SIA represents manufacturers of stormwater management products, organisations

involved in implementing stormwater management practice and people generally interested in progressing the management of stormwater. Services provided by both organisations include conferences, seminars and training courses as well as keeping members up to date with newsletters, magazines and AWA's weekly e-mail news that is sent out free to people interested in gaining the latest information.

They publish and distribute a wide range of reference material including reports,



conference papers, CDROMs and videos.

The SIA bulletin is available in portable document format (pdf) from the Internet. One of the services provided through AWA's website is a directory of over 500 organisations supplying products and services to the industry.

For more information:
Clare Porter, Australian Water Association,
ph (02) 9413 1288,
cporter@awa.asn.au or the AWA website:
www.awa.asn.au

John Woods, Stormwater Industry Association,
ph (02) 9810 7805 or
www.stormwater.asn.au



Undertaking a site inspection of wetlands at Rockhampton City Council's landfill area.

“Working with different organisations to create better stormwater systems has meant that I get to meet many different people, and I can get involved in providing practical solutions.”

Profile – Patrice Brown

– Industrial Stormwater Management Pioneer

Patrice Brown is an environmental scientist and consultant. She has more than 20 years of experience in environmental management of industrial sites in NSW and Queensland. Currently working for Connell Wagner, Patrice is the leader of the company's environmental

group in central Queensland.

Throughout her career, Patrice has stood at the forefront of stormwater management and cleaner production. She has introduced improvements in stormwater management systems at timber plants, sugar mills, power stations and urban development sites.

In the early 1990s, Patrice led a team with support from the Commonwealth Government and CSR Timber Products, to set up a demonstration site for the National Cleaner Production

Program. The project sought to improve water quality discharged from CSR's Raymond Terrace hardboard factory, and reduce water costs.

The team's efforts resulted in a significant reduction of stormwater flowing to the effluent treatment system, providing substantial capital savings.

After filtering through a constructed wetland, the quality of stormwater diverted to the local waterway met the NSW EPA's discharge criteria. Reuse in the factory led

to an overall reduction in water use.

Today Patrice is involved in a number of exciting initiatives including an innovative project that aims to reduce nutrient and salt loads in treated abattoir effluent.

Aside from making many breakthroughs in the environmental management field, Patrice completed a Bachelor of Science degree and Master of Civil Engineering degree by correspondence and is, with her husband, raising three children.

Issue 3 of Stormwater News, which focused on litter evoked a very positive response.

We thank Melbourne Zoo for providing us with the turtle photo taken by Ron Prendergust. It certainly helped to convey the message.

