

COMMUNITY UPDATE

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WELCOME

The key components of the Victorian Desalination Project are coming together.

Installation of all four marine structures was successfully completed recently, two months ahead of schedule.

This was closely followed by completion of the underground intake and outlet tunnels, also ahead of schedule.

Laying of the transfer pipeline and underground power supply is almost 75 percent complete, with testing and commissioning scheduled to begin in the coming months.

Significant progress is also being made on the desalination plant site, with the reverse osmosis building now more than 60 percent complete and commissioning of pre-treatment facilities now commenced.



Mechanical and electrical components that will drive the desalination plant have started to be installed.

The design vision for Victoria's new desalination plant is also coming to fruition.

Workers have started installing the green roof, the architectural trademark of the reverse osmosis building, which will help blend the plant into the landscape and minimise its visual impact on the coastline.

Preliminary landscaping activities have also begun on the 225 hectare community coastal park which will surround the desalination plant and provide a lasting asset for the community to enjoy.

A WORLD CLASS DESIGN **COMES TOGETHER**

As construction continues, you can start to see the architect's vision for Victoria's new desalination plant coming to fruition. The centrepiece is the reverse osmosis (RO) building – combining world class technology with architecture and landscape.

The RO building's trademark green roof will feature around 100,000 indigenous plants and shrubs, making it the largest green roof in the southern hemisphere.

Around 25 different local species will be used on the roof – all specially chosen to suit the coastal conditions of the local area.

Every square metre of roof can support more than 15 kilograms of vegetation.

Instead of using soil on the green roof, a special growing media provides a lightweight, waterproof base strong enough to hold around 100,000 plants.

Highest point of the building 26 metres above sea level – barely visible from any public viewing point.

The roof will be lined with more than 16,000 acoustic ceiling panels, made from recyclable materials like wheat straw.

"The RO building is the centrepiece of a design that brings together architecture and landscape. Constructed dunes will create the impression of a green line running through the site, which will then merge onto the green roof of the RO building, bringing the design concept together."

*Yvonne von Hartel – Principal, peckvonhartel
Stephen Ashton - Director, Ashton Raggatt McDougall*

Roof panels designed to protect against corrosion from both the sea air and the desalination process inside the building.

DID YOU KNOW?

More than 80 percent of the RO building's 3600 tonne structural steel frame is now in place and commissioning of treatment facilities inside the building has started.

Almost 70 percent of roof panels are in place, ready to be planted with the green roof.

An average day sees around 1800 people and up to 30 cranes at work on the RO plant site!

RO building - March 2011.



Green roof seasonally irrigated with recycled water captured from the roof run off and kept in a 500,000 litre water storage pond on site.

All excavated spoil kept on site and used to construct a series of dunes to minimise noise and visual impacts.

Roof panels tilted into 23 different planes, ranging between 3.5 and 15 degrees.

More than 1.4 million cubic metres of earth excavated to lower the plant site, allowing it to be integrated into the landscape.

Montage of the plant site from the proposed viewing platform.

MARINE WORKS COMPLETED AHEAD OF SCHEDULE

Marine works for the Victorian Desalination Project have been successfully completed, ahead of schedule.

Two intake and two outlet structures have been installed on the seabed off Williamsons Beach.

These structures will draw seawater into the plant and return seawater concentrate at the end of the desalination process.

Marine works were completed ahead of schedule and in accordance with the strict environmental performance requirements that are in place for the project.

This included approvals from the Environmental Protection Authority and Federal Government agencies.

"Installing the marine structures was a complex operation, requiring detailed knowledge of the marine environment and the best construction methods to minimise environmental impacts," said Jonathan Wilson, Marine Project Manager.

"Using a jack-up barge to carry out the works also meant we could install the structures without having to close Williamsons Beach – a great result for the community."

DID YOU KNOW?
The marine structures connect with the underground tunnels around a kilometre offshore and some 15 metres below the seabed.

TUNNELLING TEAM PREPARES FOR BREAKTHROUGH

Two tunnel boring machines (TBMs) have successfully completed their work on the Victorian Desalination Project.

The first TBM, 'Wonthaggi Maggie', finished boring the 1.2km seawater intake tunnel just before Christmas, while 'Rocking Ruby' recently finished work on the 1.5km outlet tunnel.

A total of 10,700 Australian-made concrete segments were used to construct the twin tunnels.

The tunnelling team is now preparing for the next stage of work – connecting the tunnels to the marine structures on the seabed.

"This is precision work and it takes an expert surveying team to ensure alignment between the tunnels and risers," said Glyn Edwards, Tunnelling Project Manager.



The seawater intake tunnel (right) was completed in December, followed by the outlet tunnel (left) in February.

Steel bracing rings are installed at the head of the intake tunnel – the first step in connecting the tunnels with the marine structures.



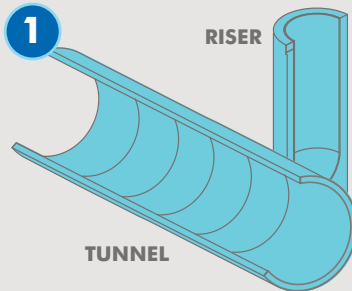
WORKS UPDATE

- ✓ Four marine structures and risers in place
- ✓ Grouting works completed
- ✓ Nine diffuser nozzles installed on the outlet structures
- ✓ Jack-up barge departed
- ✓ Seawater intake and outlet tunnels completed
- ✓ Tunnels being connected with marine structures

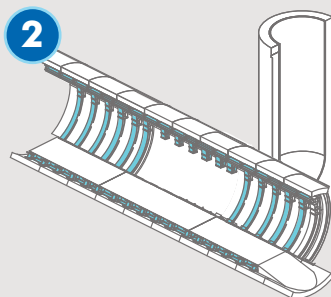


TUNNEL BREAKTHROUGH

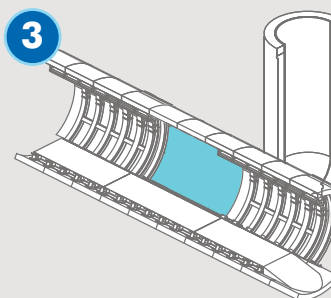
- A STEP BY STEP GUIDE



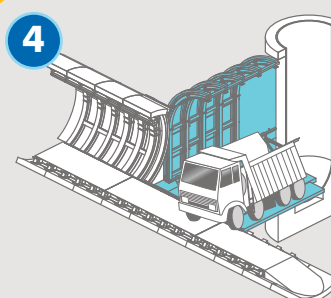
The marine riser and tunnel are built alongside one another.



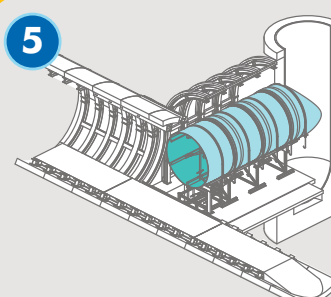
Steel bracing rings are installed at the tunnel head to maintain structural integrity and keep the tunnelling team safe.



Concrete segments are removed.



A mini excavator and dump trucks are used to excavate a short 'adit' tunnel a few metres long, which is lined with steel and concrete until the tunnellers meet the risers.



Tunnellers cut an opening in the side of the riser and install a glass-reinforced plastic pipe, forming a permanent connection between the tunnel and the riser.



CREATING QUALITY DRINKING WATER

Just like drinking water supplied from water catchments, desalinated water must also be treated to ensure it meets Australian Drinking Water Guidelines and Victorian health requirements.

Water produced by Victoria's new desalination plant will be required to meet some of the highest drinking water standards anywhere in the world, consistent with Melbourne's existing supplies.

AquaSure's contract for the project includes strict requirements that define the quality standards that the desalinated water must meet.

An online monitoring system at the plant site will provide instant, real time data on the quality of seawater coming into the plant and the standard of drinking water being produced.

Manual sampling and checks are also carried out at key stages of the desalination process and tested by independent laboratories.



All seven water delivery points along the water transfer pipeline are equipped with online monitoring systems to ensure water quality is maintained from start to finish.

These processes will be closely monitored by the Independent Reviewer and Environmental Auditor to ensure that all project performance requirements are met. The water must also meet the requirements of the Victorian Safe Drinking Water Act 2003.

BONJOUR DEGRÉMONT



AquaSure's design and construction contractor for the Victorian Desalination Project is Thiess Degrémont – a partnership between Australian construction and engineering company Thiess, and Degrémont, a world leader in reverse osmosis desalination technology.

Degrémont has designed and built 250 reverse osmosis desalination plants around the world – more than any other company!

It currently supplies around 20 percent of Australia's drinking water, through facilities like the Sydney Prospect Water Filtration Plant and the Perth Seawater Desalination Plant.

Once the design and construction of the project is complete, Degrémont will continue to be involved in the operation and maintenance of the plant for the next 27 years, through a joint venture with Thiess Services.



SPOTLIGHT ON CHRISTOPHE SAUVAGE LEAD COMMISSIONING ENGINEER

Christophe is a member of the Degrémont team who has recently moved to Australia to work on the Victorian Desalination Project.

Tell us about your role on the project?

I work with a specialist team of commissioning engineers who look after all the water treatment processes for the plant.

Just like drinking water supplied from water catchments, desalinated water must also be treated to ensure the highest drinking water standards.

My team manages all of these treatment processes to make sure we produce a quality water supply.

What are your impressions of Australia and the Bass Coast?

This is my first time in Australia – it's such a pleasure for my family and I to discover a new landscape and culture. My children are really enjoying discovering all the Australian animals they have never seen before.

How does this compare to other projects you've worked on around the world?

Since joining Degrémont 17 years ago I've worked on lots of different projects around the world, specialising mainly in waste water treatment plants.

However, the complexity and scale of this project makes it one of the most challenging I've worked on.

HOODED PLOVER STUDY READY TO FLY

The very first edition of the Community Update celebrated the successful fledging of four hooded plover chicks born on Williamsons Beach, near the desalination plant site.



Hooded plover populations are declining in Victoria, due to low breeding success and availability of habitat.

One year on, AquaSure and Thiess Degrémont along with Ecology Partners, are proud to be supporting a new research study that

will provide important information about the types of animals that prey on hooded plover chicks - and how to stop them doing so.

While a range of factors can contribute to poor nesting success for the hooded plovers, very little is known about the impact of predators like domestic animals, foxes and seagulls.

The new study will use motion activated infrared cameras to monitor predator activity at hooded plover nest sites along the Bass Coast.

This will be followed by taste aversion trials, using things such as treated quail eggs, to see if they stop predators.

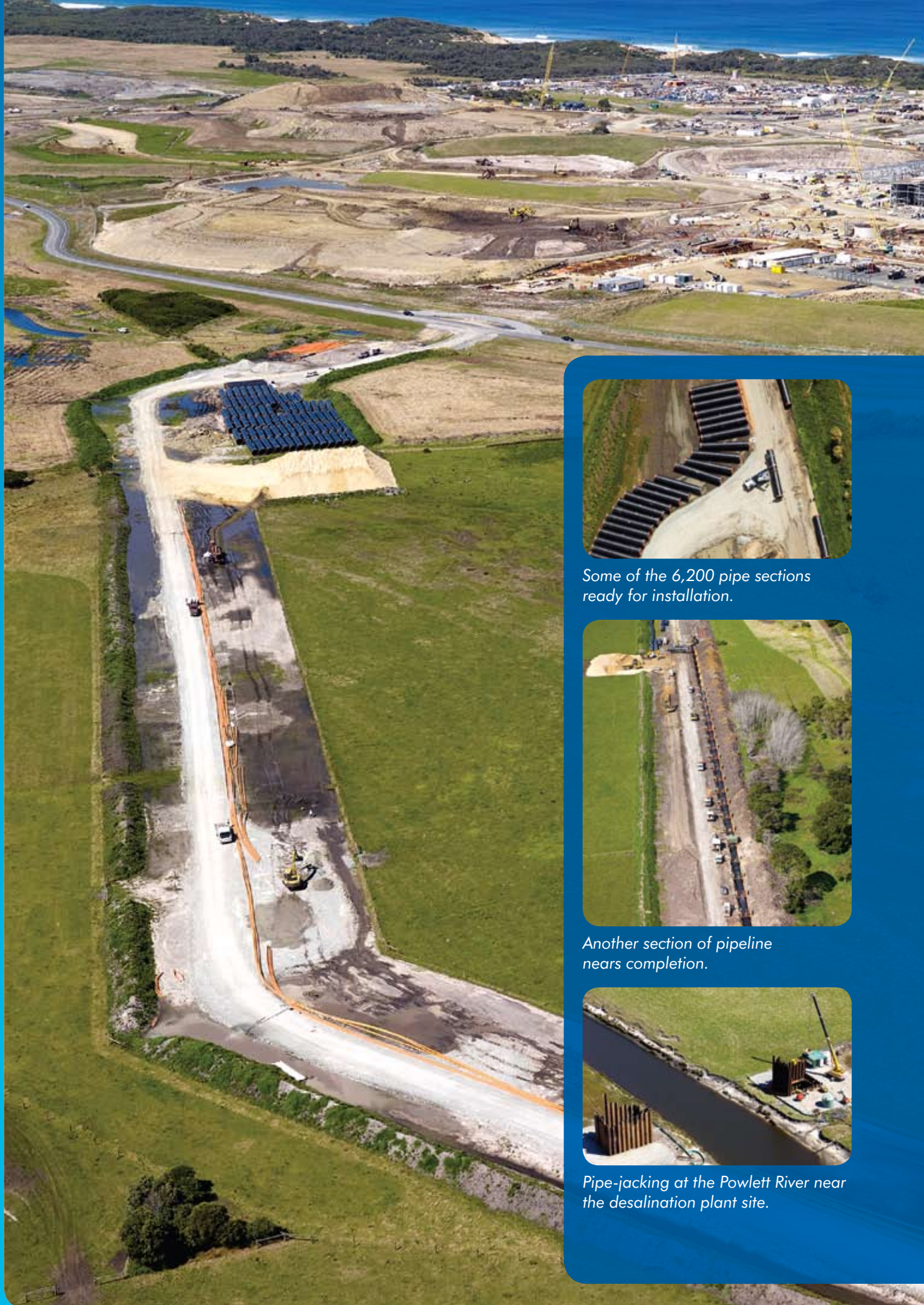
"The new research means we will be able to identify what factors are responsible for nest loss, and implement actions which will hopefully ensure a higher rate of breeding success in the future," said Deakin University's Dr Mike Weston.

The study will be carried out by Deakin University over a two-year period, with Birds Australia, Phillip Island Nature Park and Bass Coast Friends of the Hooded Plover assisting with monitoring and field work.

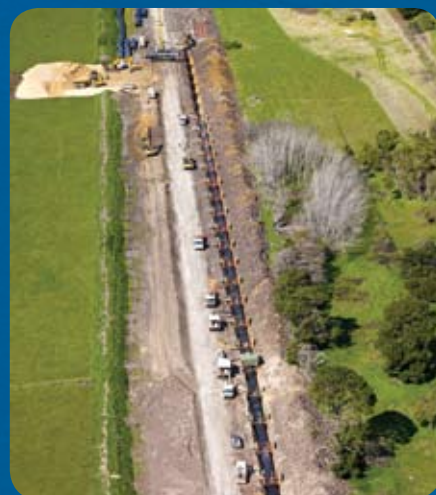


Photo courtesy Kailash Willis and Ecology Partners Pty Ltd

A new research study will use infrared cameras to monitor predator activity on hooded plover nests on Williamsons Beach.



Some of the 6,200 pipe sections ready for installation.



Another section of pipeline nears completion.



Pipe-jacking at the Powlett River near the desalination plant site.



PIPELINE NEARS COMPLETION

The 84km transfer pipeline is now 75 percent complete to connect the desalination plant site with Melbourne and regional communities.

Forty of 45 road crossings have been completed to date, including major crossings of the Bass Highway, Cardinia Road, and two crossings of the South Gippsland Highway.

Twelve waterway crossings have also been completed, using a combination of pipe-jacking and open cut trenching methods.

Construction has also started on the water delivery point where desalinated water will be connected to the existing Melbourne Water network.

The delivery point at Soldiers Road in Berwick will be capable of diverting

water from the desalination plant site to Cardinia Reservoir and directly into the Melbourne Water network.

Six other water delivery points will connect local communities to the desalinated water supply and water in Cardinia Reservoir through the two way transfer pipeline.

HYDRO-TESTING BEGINS SOON ON PIPELINE

With the pipeline nearing completion, the first range of commissioning tests will commence shortly.

Completed sections of the pipeline will be filled with water and then pressurised – a process known as hydro-testing.

The pipeline will be tested in four sections, around 20 kilometres at a time. Each section will take around two weeks to hydro-test.

“Hydro-testing forms part of our quality checking and review system, to make sure that all the pipe sections and welds are intact and operating correctly,” said Graeme Tait, Pipeline Project Manager.

“Because this will be the first time that the pipeline will be filled with water, air valves located along the pipeline may emit a hissing sound - a normal function as air is pushed out of the pipeline.

“The noise will be managed and will stop once the section of pipeline is full of water.”

Door knocks and notifications to residents will be carried out before hydro-testing commences.

Once hydro-testing is completed, minor construction work will be undertaken to connect sections of the pipeline, followed by reinstatement works.

FIRST FIBRE OPTIC CABLE LAID

Installation of fibre optic cables has commenced as part of the Victorian Desalination Project.

The cable will be co-located in the same easement as the pipe and power network.

It will provide important monitoring information on the network and will also facilitate improved broadband access to the Gippsland region.

IN THE COMMUNITY

The project's Community Information Centre in Wonthaggi recently celebrated its first birthday.

Since opening in February 2010, the Community Information Centre has welcomed more than 7,000 visitors through its doors and provide information to thousands more through its mobile community information centre and community presentations.



The community relations team also have an active presence in the local community, meeting regularly with neighbours, landholders and other members of the community to keep them informed of construction progress and to answer queries.

The team also works closely with local government, community organisations and other stakeholders to minimise local construction impacts.



KEEPING THE COMMUNITY INFORMED

- More than 7,000 visitors to Community Information Centre – equal to the total population of Wonthaggi
- More than 80 community presentations delivered to over 2000 people
- Mobile community information centre at community shows and events provided information to over 2500 people
- Regular liaison with around 125 directly affected and 400 indirectly affected landholders on the pipe and power corridor
- Letterbox drops to some 1500 households with information about 32 different construction activities
- More than 240,000 Community Update newsletters distributed to local communities
- More than 5,700 calls to the freecall Community Contact Line
- Ongoing communication with communities to keep them informed of construction work that will be occurring, with a high priority on safety and minimising local impacts.

The landholder liaison team works with directly and indirectly affected landholders and communities along the easement corridor to keep them informed of pipe and power construction works and to manage access to properties.



The mobile community information centre in action at the Pakenham Agricultural Show.



Visitors to the Community Information Centre have access to the latest news and comprehensive project information, with community relations staff available to answer questions about the project.



The team also supports a number of local projects like providing new play equipment to the Bass Coast Specialist School, designed to develop perceptual motor skills and learning experiences.

Presenting to the Drouin Hills Probus Club – one of more than 80 community and school groups who have attended the Community Information Centre.



TERZO RACING TEAM TAKES TO THE TRACKS

Wonthaggi local, Kelly Hamilton, and a team of budding engineers are putting their technical know-how and physical endurance to the test as part of the 2011 Casey – Bass Coast Human Powered Vehicle (HPV) Series.



Thiess Degrémont is one of the proud sponsors of the Terzo Racing team, which will compete against up to 80 other environmentally friendly, human powered vehicles in a series of three races. This included a non-stop, 24 hour race held in Wonthaggi recently.

The event is designed to encourage problem solving, technical and team work challenges among young people, and is a test of endurance for both the vehicles and competitors.

Each team must develop their own human powered vehicle to compete in the event, with vehicles also being assessed for their innovation, design and safety features.

The final race of the season will be held at Casey Fields, Cranbourne East on Saturday, 14 May.

For more information visit: <http://cchpvcc.org.au>



The Victorian Desalination Project Community Update is a quarterly publication designed to keep you informed of the latest project news and progress.

You can download copies of this newsletter from our website or pick up a copy from the Community Information Centre.

CONTACT US

Visit the Victorian Desalination Project Community Information Centre 33–35 Murray St, Wonthaggi
Opening hours: Tuesday–Friday 9.30am–4.30pm, Saturday 9am–12pm.



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