

TOWNSVILLE WASTEWATER UPGRADE

SAVING ONE OF THE SEVEN WONDERS

The managing contractor on the upgrade to the Townsville Wastewater network, Baulderstone has been a trusted name in Australian building and infrastructure for over 80 years. Created from the union of two trusted names in Australian construction, MR Hornibrook, and AW Baulderstone. Baulderstone is a subsidiary of Valemus and integral part of Bilfinger Berger AG, a global giant in both construction and infrastructure development. Today, Baulderstone is one of the largest building and engineering companies in Australia, employing over 1200 people across the country, with turnover in excess of \$1.5 billion.

When Townsville City Council recently adopted a centralised wastewater management strategy to address the increasing needs of the region, they needed to upgrade the Mt St John Wastewater Treatment Plant (WTP). The completed plant will treat wastewater, improve the quality of effluent discharge, increase potential for water re-use and protect the Bohle River receiving environment and ultimately the Great Barrier Reef Marine Park.

The project is budgeted at \$190 million with a completion date of September 2011. On completion the upgraded WTP will be the

second largest sewage treatment plant in the North Queensland region. Baulderstone will also construct 27 km of pressure rising mains from Bushland Beach in the north to Kirwan in the south, as well as four new sewage pump stations, modify four existing pump stations to service the rising mains network and upgrade an existing WTP in the suburb of Condon.

The Townsville wastewater upgrade carried out by Baulderstone will deliver significant community benefits through reduction of sewerage treatment infrastructure within residential areas and will provide for future growth of the Townsville region. Environmental benefits linked with the project include an improvement in the quality of effluent and cessation of discharge of effluent to Black River and Bohle River.

Baulderstone in its various forms has been integral in the construction of iconic buildings of local and worldwide significance including the UNESCO heritage-listed Sydney Opera House, Sydney's Anzac Bridge, Brisbane's Story Bridge, Melbourne's Etihad Stadium and Adelaide's Convention Centre. In addition to these well known buildings, Baulderstone have been integral in the construction

of many types of infrastructure works, and whether it is a road, bridge, power station, hospital or hotel, an airport or office park, their mission is to provide sustainable solutions that deliver world class excellence.

Baulderstone's commitment to sustainability is evident in some of the following construction and workplace practices, including renewable energy use, water conservation, use of sustainable materials, protection of sensitive habitat areas, reducing paper usage, lower electricity consumption, video conferencing and educating the company's staff on 'greener' living practices in their own homes. They have been members of the Green Building Council of Australia since 2005 and were pioneers in building the first "Green" building in the country, the Henry Deane Building in Sydney's CBD, which was the first building to achieve 4.5 star SEDA for base building and 5 star SEDA for fit-out.

The company regards the environment and sustainability issues as integral elements of their business, and are committed to best practice environmental management in all aspects of their operations. This matches the company's 'here-to-stay' business

objectives and a long-term vision for the protection, management and sustainable utilisation of the environment.

Baulderstone is widely recognised for the quality and service excellence of their construction projects, founded on a proud history of hard work, commitment and innovation. Their adaptable and responsive approach to project planning and delivery encourages innovative problem solving. This is reflected in a strong commitment to partnerships and alliances and in the ability to identify innovative ways to achieve mutually beneficial outcomes, such as ECI Relationship Contracting (Early Contractor Involvement).

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PRINCIPAL CONTRACTOR : Baulderstone
CLIENT : Townsville City Council
COMPLETION : September 2011
SURVEYOR : Minstaff Surveys
PROJECT END VALUE : \$190 Million



CONCRETE CONSTRUCTION

SAW Formwork Pty Ltd (SAW) is a commercial contractor specialising in formwork, steel fixing, placement and finish of concrete as well as on/off site panel production for builders and developers. SAW is headed by founder and Managing Director, Stephen Wollschlager, who has a long history working with concrete formwork. Manufacturing services that the company excels in includes precast concrete, onsite laser screed to produce super flat floors, and tilt up panels, as well as specialised formwork applications such as suspended decks, columns and stairs.

For the Townsville Wastewater upgrade the company provided onsite formwork and concrete works and precast panel manufacture at the SAW Precast Facility. One of the obstacles on this project were the periods of prolonged wet weather. Fortunately the SAW precast facility provided 2000m² of undercover area, a gantry crane and transport infrastructure which enabled fabrication of forms and delivery to site.

One of the new processes used was the Somero Copperhead Laser Screed, which has helped revolutionize the entire process of concrete placement. The benefit of using this advanced technique is that the resulting floors are flatter and more level than those produced with

the more conventional methods, which are labour intensive and strenuous. SAW's progressive approach to concreting technology improve outcomes in terms of both quality and productivity.

SAW is an acronym for Safety At Work and SAW has developed a safety system to meet AS/NZS 4801:2001 standards. As well as being a Quality Assured Company with ISO 9001:2008 certification, the company has introduced laser screed technology to North QLD and promotes a culture of professionalism, skills development, teamwork, environmental sustainability and innovation. SAW is also Registered Supplier of Precast Concrete Elements for Main Roads.

Other SAW projects currently underway include: Bunnings Fairfield Waters, Holborn Apartments, Lavarack Barracks, and the BP Port Terminal at Townsville.

SAW leads the way in advanced construction techniques in concreting, formwork and tilt panel production. The company can perform on-site or off-site panel production for builders and developers, execute detailed earthworks and create 'super flat' concrete floors. As an Award winning Townsville business they are rapidly developing a reputation

as the preferred option within the construction sector, particularly in Queensland. Some of these awards have included, the 2008 QLD Master Builders Award for Industrial Buildings up to \$3 million, as well as Most Innovative Use of Concrete, and the 2007 Master Builders Award for Outstanding Achievement in Concreting and Tilt Panel Construction.

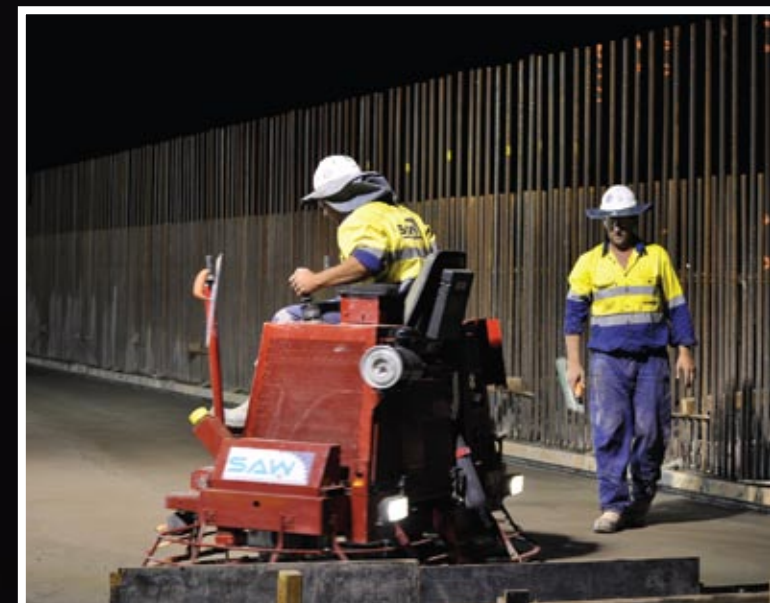
SAW demonstrates a state of the art, pro-active design approach that has already been recognised by ANCON Beton Pty Ltd, a leading Australian and Asian consultancy. In recognition of SAW's high quality workmanship, the company has been placed on a select list of Australian preferred concreters.

Stephen's holistic approach to business is reflected in the way the dedicated team at SAW approaches any project and can be measured by the enthusiasm of the apprentices learning the trade. SAW has a quest for the most technically advanced concrete solutions and this is achieved through the SAW team's approach and discipline, with an emphasis on best practice, training, research, safe work practices and the highest standards of quality. SAW is an exciting company and there's no doubt that it's a company clearly focused on the concrete construction needs of today and more importantly, tomorrow.

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A COMPANY OF
THE SAW GROUP
ESTABLISHED 1987







PRECISION STEEL FIXING

Precision Steel Fixing provides services in reinforcement fixing to the commercial, civil and residential markets. The company operates in both NSW and Queensland, providing professional trade services, site coordinators and steel fixing foremen. The main areas they work include: conventional slabs, lifts, stairs and jump forms, prestressing slabs, tilt panels, suspended slabs, mesh slabs, footings, ground slabs, piers and piles.

For the Townsville Wastewater Upgrade the company installed all the structural reinforcements for the decks, walkways and walls on the project. Some of the other projects that the company is currently working on in the Townsville area include the bridges for the Douglas Arterial upgrade, Townsville Hospital, and the Northshore Shopping Centre.

Precision Steel Fixing prides itself on reliability, quality and stability, the guidelines its work culture is based upon. With a highly skilled, dedicated and loyal team of trade professionals, the company is well positioned to provide quality steel fixing services to a variety of projects. Their focus on occupational health and safety is based on the belief that the wellbeing of people employed at work or people affected by the company's work is a major priority and must be considered during all work performed by the company.

Precision Steel Fixing's goal is to provide their business partners with the highest quality steel fixing services in the Australian market and continuing to forge relationships with existing, as well as prospective clients. This philosophy encourages clients to become part of business process and evolves into an integrated business partnership with the end result in mind, working as team to achieve excellence. Their

reputation is built on a highly personalised approach that starts with the client's objectives and requirements in mind and results in their goals being met in the most commercially viable and efficient manner.



PRECISION STEEL FIXING

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TEMPLUG™ DRAIN INSERT FOR SIDE ENTRY PITS

The Templug Drain Insert has been invented to remove waste that is being washed into our Storm Water system. The trees that we have been planting over the last 10 years or so have created a “vegetative waste” that the Storm Water infrastructure was not designed or built to cope with.

The Templug Drain Insert is placed into the side entry pit as a “cartridge” and is to be removed to be cleaned depending on what level of waste is entering these drains.

The goal is to radically reduce the amount of “vegetative waste” entering our waterways and lakes of which the environmental impact is now well documented.

The insert only needs to be reverse flushed and the product is back to its original state. The product is not for every side entry pit, but, should be targeted in suburbs that are known to councils as high waste areas. They can also be used in new developments where sand is an issue.

The Templug Drain Insert if used in the drains feeding into the rivers would prevent this “vegetative waste” from breaking down and thereby depriving the water of its oxygen and the subsequent effect on river life.

For Drain Insert enquiries contact:

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TEMPLUG™ BUILDING PLUG



COMMON PIPE DAMAGE

Exposed or protruding drain, waste and vent pipes on construction sites are often damaged as a result of several common scenarios. These pipes are damaged when tripped over by workers, or as materials are moved around the site.

They are often kicked, hammered or at best sawn off to reduce their tripping hazard. Workers often use a hammer or a piece of steel to puncture the pipe in an attempt to drain water that pools on the slab. This damages the pipe internally.

TEMPLUG™ - THE SOLUTION

- Elimination of tripping hazards caused by protruding DWV pipes
- Improved OH&S, consequently reducing workers compensation claims & company insurance premiums
- Minimises cracked and broken DWV pipes
- Environmental benefit of reducing building waste entering the waterways
- Porous material allows water to quickly drain away
- High visibility - the blue material easily identifies a Drain, Waste or Vent pipe location

VINIDEX Pty Ltd is the distributor for Templug™ Building plug
 available through all major plumbing outlets

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VINIDEX SUPPLIES NEW PIPING TO TOWNSVILLE



Main: Boulderstone's with 600DN Sewer Ductile Iron Pipe.
 Top: Vinidex & Boulderstone staff with PE pipe and Vinidex Supermain® PVC-O.
 Top 2nd: Construction of pipe system.
 Bottom: Vinidex polyethylene pipe.



Apart from the intrinsic qualities of ductile iron, this durability is also attributable to the quality of the exterior coatings, which provide protection against soil aggression and contain self-healing properties. The interior cement lining is also resistant to water or outflow reactivity.

These superior qualities will significantly assist the longevity of the upgraded wastewater treatment plant and reduce the life-cycle costs to the Townsville City Council, the owner of the wastewater treatment plant.

Mayor of Townsville, Les Tyrell, was recently quoted in a local newspaper, “Mt St John is an extremely important project for the city’s future and we are replacing the oldest sewerage treatment plant in the city with a state-of-the-art facility on the same site.”

Les Tyrell also commented that the new plant will meet much higher environmental standards. Nationally and as a member of the local business community, Vinidex is excited to be part of the team responsible for such an important Townsville capital project bringing better services to the community.

Vinidex is also proud to support local service providers and with such a large local content, help ensure continued employment opportunities in the Townsville area.

September 2009 saw the start of construction on one of the biggest regional water and wastewater projects in Australia. The \$189M Townsville Wastewater Upgrade Program, with the major works being delivered by Boulderstone Queensland, includes a new pipe product design previously unavailable in Australia.

This vital capital works project required 20 km of pipeline that was supplied by Vinidex. The AS2280 ductile iron pipe ranged from DN300 right through to DN750 and made up more than two thirds of the total pipeline for the project. The new sewerage diversion pipelines will be connected to the upgraded wastewater treatment plant at Mount St John in Townsville, North Queensland.

Vinidex, the sole Australian distributor of the ductile pipe, was the chosen supplier due to its competitive product package which included a significant amount of the materials being manufactured in Townsville.

The ductile pipe introduces new standards in pipe coating technology and corrosion protection.

For more information on Vinidex’s extensive range of pipe system products please call 13 11 69 or visit the website on www.vinidex.com.au.