

Smithfield Village

Residential Community, Cairns

100th Australian Flovac Project.

The Smithfield Village residential development is located 20 minutes north of Cairns and will ultimately have 1,300 houses.

Satterley, the developer, recently won the UDIA's Presidents award for services to the industry and had previously installed a Flovac system at Ibis Gardens near Busselton in Perth.

For Cairns Water this was their second vacuum system, having successfully installed a Flovac system in 2003. Since that time there has only been 6 callouts to the over 200 vacuum interface valves in the system. Residents have commented on the eradication of odours and mosquitoes since the installation of the system at Machans Beach which replaced an ageing septic tank system.

Adam Gowlett, Satterley Property Group's Queensland State Manager said:

"The efforts, risks, costs and quantum of infrastructure associated with continuing to deliver gravity sewer in a flat, coastal and high water table area meant we had to keep pressing for a better long term solution. The community will get a state of the art, aesthetically pleasing building within a parkland setting. Cairns Regional Council, a state of the art single piece of infrastructure delivery a high quality effluent product rather than 4 or 5 more deep sewerage pump stations. The Flovac system will produce far simpler construction for the life of the project and result in the easier delivery of land to the market – a win for all concerned".



Award Winning Development



Flovac PE Pits for Easy Installation



Vacuum Pump Station

Award Winning Project

•Institute of Engineers – Engineering Project of the Year

An initial analysis by Aurecon indicated that overall construction costs for the vacuum system in the order of 80% of the costs of a traditional gravity system. The ability of the system to accept sewage from an external catchment (not possible with the gravity system) resulted in a partial headworks credit from council. This reduction in the capital cost has mainly benefited the developer, but this in turn results in reduced lot prices.

The reductions in recurrent costs will benefit council and hence the broader community. Recurrent cost savings will flow through the decommissioning of an existing conventional pump station, reduced maintenance costs (shallower manholes and sewer lines, less blockages and easier to locate and fix), operating and maintaining one vacuum pump station as compared to four conventional pump stations and reduced groundwater inflow to the system, lessening overall treatment costs at the Marlin Coast STP.



The Aurecon logo, featuring a green leaf-like shape above the word 'aurecon' in a bold, lowercase, sans-serif font.

Vacuum Pump Stations, compared to conventional sewer pump stations, provide a low maintenance facility with a significant reduction of the usual risks that are typically associated with working around sewage and noxious gases.

This facility has demonstrated

- Construction techniques to improve speed and reduce cost.
- An overall reduction of costs to the developer
- Innovations to improve WHS of staff involved in the operation and maintenance of the plant.
- Reduced operational costs to council trunk infrastructure
- Improved environmental outcomes to the community
- Enhanced amenity for residents compared to conventional sewerage infrastructure.
- Innovations and sustainable practices to reduce costs of regular and major operations and maintenance.

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