

DECENTRALISED SEWAGE



CASE STUDY:

Tourist park uses BioGill to treat wastewater onsite

CLIENT:	Tomago Village Tourist Park
LOCATION:	Located between Newcastle and the Hunter Valley in NSW, Australia
TREATMENT TYPE:	Sewage
CAPACITY:	30 - 40m ³ per day
SYSTEM SIZE:	2 x BioGill bioreactors. Total 492m ² of membrane



SITUATION

Tomago Village Tourist Park was set to expand facilities to cater for the increasing demands from tourists and long-stay residents. While the local council was supportive, there was a stipulation; the park had to upgrade its onsite treatment of wastewaters from the toilets, showers and laundry.

Park owner, Peter Rains, went into research mode. His existing wastewater plant treated more than 30,000 litres of wastewater each day with large morning and afternoon peaks.

Given the investment in the existing plant, Peter wanted to find a technology that could be retrofitted to improve treatment performance and ensure compliance with discharge levels.

His search led him to a new, Australian-invented technology called BioGill, a breakthrough in the biological treatment of wastewater. BioGill units are above ground, non-submerged bioreactors that deliver a low cost, low energy solution for treating wastewater.



SOLUTION

Four BioGill bioreactors were installed. Two were added to the existing conventional sewage treatment plant with a tertiary filter and a UV steriliser used on the water as it flowed to a storage pond.

A further two BioGills were installed at the pond to improve water quality, control algae growth and reduce turbidity.



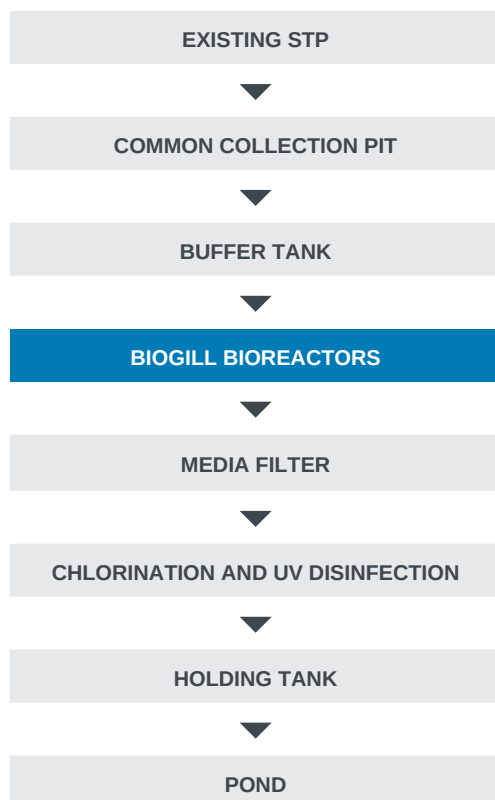
BioGill bioreactors treating wastewater onsite at Tomago.



DESIGN

The BioGill system was retrofitted to an existing conventional activated sludge process. Wastewater collects at a common point in a collection pit and is transferred to a buffer tank. Once the buffer tank reaches a batch volume the wastewater is transferred to the BioGill bioreactors for processing.

Wastewater is gravity fed down through the gills. Microorganisms colonise the gills feeding off the nutrients in the liquid stream. When the treatment cycle has finished, the treated effluent is pumped through a media filter, chlorinated and UV sterilised. Treated water is held in a holding tank where it is used to backwash the media filter. Excess is discharged to a pond nearby.



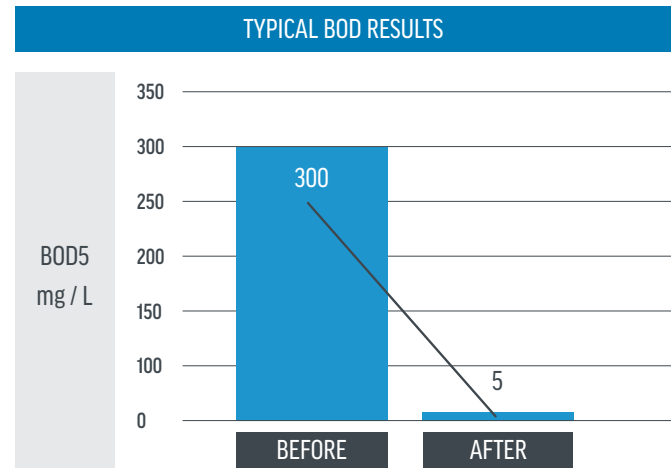
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RESULTS

The wastewater post treatment is recording typically less than 10mg/L of BOD and less than 100 Colony Forming Units (CFU) per 100mL of effluent, all within the discharge requirements.



98%

REDUCTION IN BOD

