

CASE STUDY

PROJECT	WASTEWATER TREATMENT PLANT DIFFUSER UPGRADE FOR CORRECTIONAL FACILITY
PRODUCT	Diffusers
INDUSTRY	Infrastructure
LOCATION	Western Australia



BACKGROUND

A Western Australian correctional facility was having problems with their sewage treatment plant. MAK Water was asked to review the operation and propose a solution to upgrade the process.

It quickly became clear the aeration process of the Wastewater Treatment Plant (WWTP) was the main cause of the site process issues, as the aeration system was inadequate for the treatment plant's compacity.

SOLUTION

MAK Water has years of design and construct experience under our belt when it comes to wastewater plants and understands the importance of adequate aeration for the biological process. The aeration grid on-site was removed, and new diffusers were installed within the aeration tank.

DETAILED SOLUTION

- Stripped out existing aeration system from the tank and re-piped / replaced all diffusers.
- Increased the number of diffusers in the aeration tank to increase the airflow distribution and generation.
- Upgraded the Dissolved Oxygen (DO) control system on-site for better DO control.

RESULTS AND BENEFITS

- **Compliant results.** Designing an aeration process that supplied sufficient DO in the aeration tank added in nutrient removal returning the plant to compliant standards.
- **System control.** Upgrading the DO system gave the operators the ability to fine tune the control of the aerators.



In tank aeration diffusers