

Case Study: The Way Christian School

Wastewater That Works Harder:
How The Way Christian School Turned Sewage into a Resource.

Overview

We used our modular sewage treatment system to enable The Way Christian School's wastewater treatment capacity to expand as the school grows.

The school now proudly utilises treated wastewater, ideal for irrigation, transforming potential waste into a beneficial resource.

Requirements/On-site challenges

As enrolment at The Way Christian School increased, their existing septic tank and soak-away setup were no longer able to cope with the rising daily load of 380 learners. The legacy system was reaching capacity, and the school had an additional goal: to reuse treated wastewater to irrigate their sports fields—reducing their dependence on municipal water supply and cutting operational costs.

Solution

We enhanced their existing septic tank system by introducing a Bio-reactor. This reactor contains a tank filled with fixed film plastic media, providing a surface for biomass to attach. The tank is aerated, allowing aerobic bacteria from the wastewater to consume the organic compounds present.

In the treatment's final phase, the settled effluent undergoes disinfection using an ozone system to remove pathogenic bacteria, ensuring the water is safe for irrigation and minimizing disease outbreak risks.

The plant chosen—a Bio-Mite 50 (10kL) Above Ground system—was specifically selected for its modular expandability. As the school's enrollment grows and daily load increases toward a projected 20kL per day, capacity can be doubled by adding a single additional 10kL bioreactor without the need for major infrastructure changes. The treated water meets the DWAF General Standard criteria for irrigation quality water.



Location

Raslouw, Centurion
Gauteng



Industry

School



Plant size

10kL per day
(expandable to 20kL)



Project date

November 2019

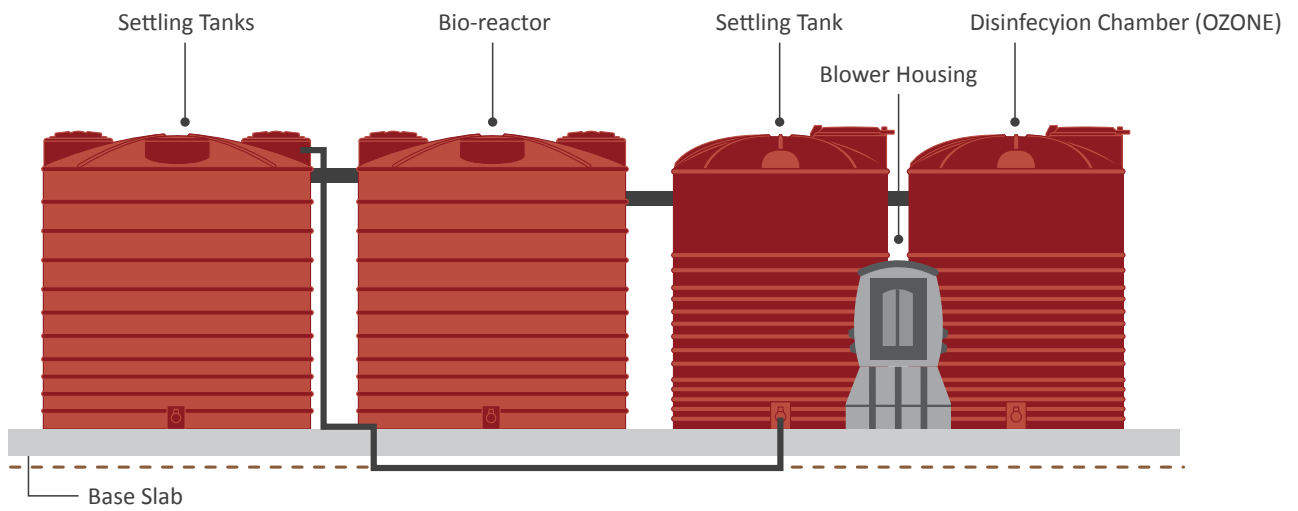


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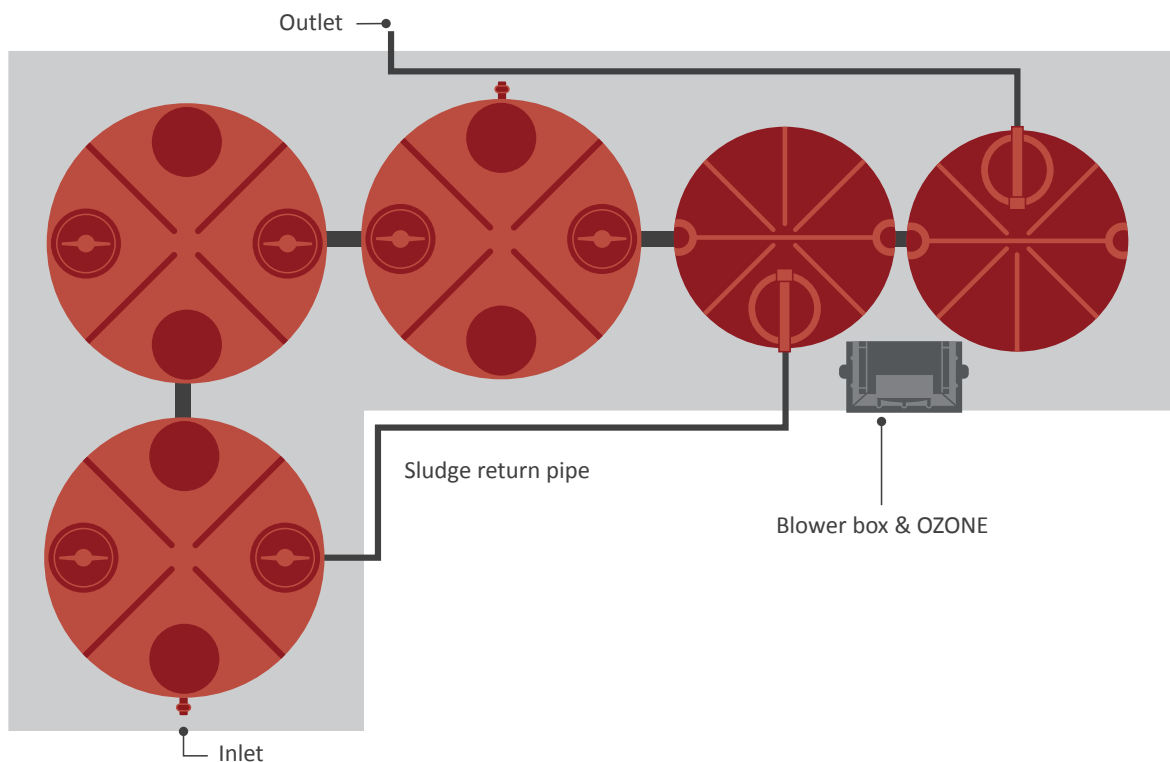
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Plant specifications

Side view



Top view



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Photographs



Conclusion

Effective wastewater management in educational institutions not only ensures a clean and secure learning atmosphere but also cuts down on water usage, leading to decreased water expenses. The Way Christian School's modular plant is designed to grow alongside the institution — delivering long-term sustainability, compliance, and cost efficiency without requiring a full system replacement as demand increases.