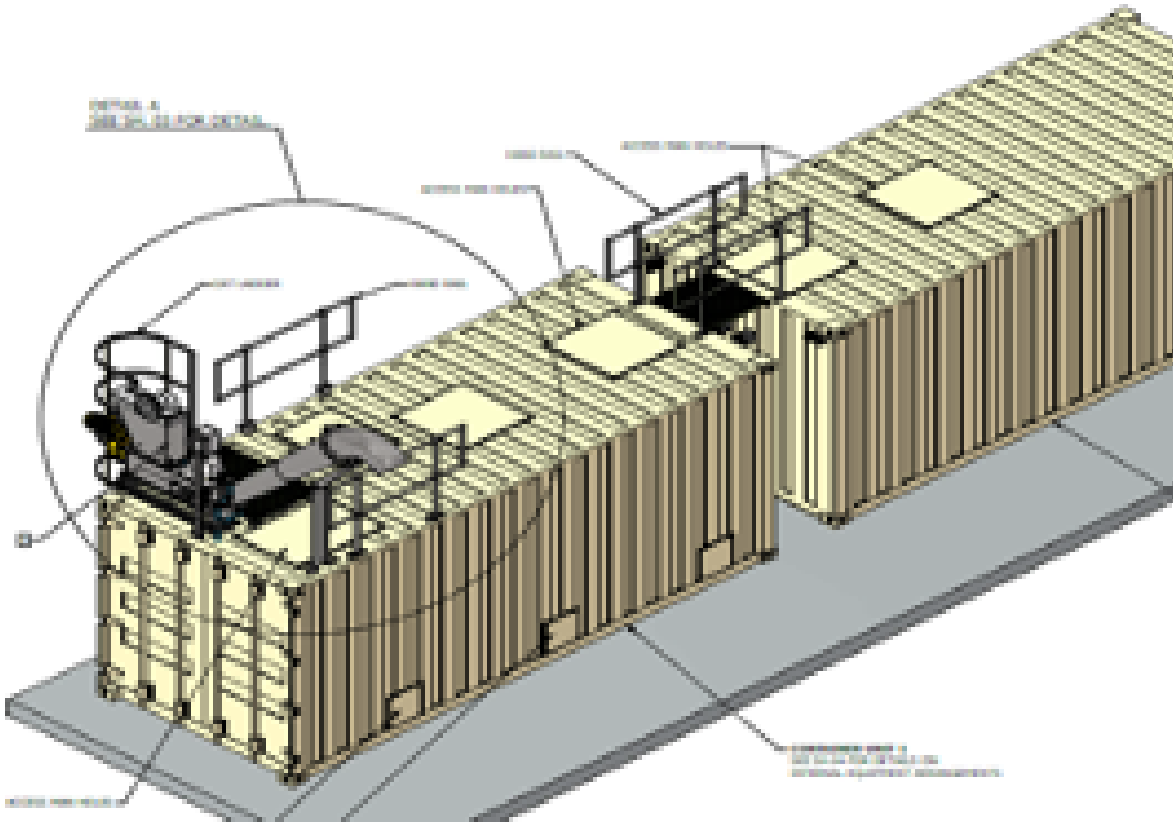




Sewage water treatment plant



Problem Statement

The mine has ablution blocks that generate sewage water. This water needs to be treated as there are no municipal lines nearby to send the water to. The effluent of this treatment process is to be used as underground irrigation using leaching systems.

Solution

A containerised plant was designed to produce effluent in terms of the current South African Water Act with specific reference to the General Limits, defined in the South African law, which also conform to the specifications used in the enquiry. The product water from the plants will be able to be used as irrigation and will be suitable for discharge into most rivers.

The plant uses conventional activated sludge (CAS) technology whereby COD is broken down using micro-organisms and air. The micro-organisms occur naturally, and no additional chemicals are required once the plant is up and running.



Typical Plant Feed

- Raw domestic sewage water – the general parameters are given below:
- BOD – 100-500 mg/L
- COD – 200-700 mg/L
- TSS – 100-500 mg/L
- TKN – 20-90 mg/l



Performance Target

- Treated Water needs to comply to the South African General Discharge Limits:
- Faecal Coliforms 10 000/ 100ml
- COD 75mg/l
- pH 5.5-9.5
- Ammonia as N 6mg/l
- Nitrate as N 15mg/l
- Free Chlorine 0.25mg/l
- TSS 25mg/l



Process

- Anaerobic
- Anoxic
- Aeration
- Clarification
- Disinfection



Innovation

This decentralised sewage treatment system provided our client a solution to process their sewage independently, considering they lack access to any municipal systems.