

BOLTED ROADTRAIN® SOLUTION FOR AN EXTREMELY ISOLATED SITE - GOBE STP

CASE STUDY



The bolted Roadtrain® packaged sewage treatment plant once again demonstrated it's capability in challenging remote installations at Gobe air strip on the upper reaches of the Kikori river, gulf province in Papua New Guinea, demonstrating:

- Installation without craneage.
- Transport as flack pack components.
- Installation during civil unrest.

The Roadtrain® treatment system included:

- Aeration
- Clarifier
- Chlorine detention

The plant is based on the intermittent aeration treatment process.

The incoming sewage is aerated in the aeration tank. During the aeration phase the bacteria enter an aerobic state to oxidise the carbonaceous pollutants. When the blowers cycle off the tank enters into the anaerobic state and bacteria convert nitrites to nitrates.

Aerated liquor is decanted from the tank via a control float and discharged into the acquiescent zone of the clarifier where treatment is split into a sludge train and an effluent train.

For the sludge train, suspended solids settle out of solution into the bottom of the hopper to be airlifted

back into the aeration tank to seed active bacteria into the biological treatment process. Once per week sludge is decanted out of the base of the hopper for disposal to maintain a vibrant biological community. Scum is also skimmed off the top of the clarifier and returned to the aeration tank for further treatment.

For the effluent train, effluent is decanted off, behind a scum baffle, via the effluent weir trough and discharged into the chlorine detention tank where chlorine is dosed and mixed with the effluent for discharge into the local aquatic environment.

The bolted panel Roadtrain® is a flat pack system in this case trucked in by several small utilities over 37 kilometers of dirt jungle roads and narrow river crossings. Craneage was absent from the site so the resident Vertol helicopter was engaged to assemble the panels.

In the Gobe case, the site was installed during the PNG Sandline Coup de tat of 1997 and yet the project was completed on time and on budget through the use of local labour and one expatriate supervisor.

Item	Value
Capacity	300 EP
Process	Extended aeration
Flow	140 m3/d
Design Configuration	Bolted Tank
Year	2015