

BETTER WATER. BETTER WORLD.®

## Llembe, South Africa MyFAST® 16.0 HS-STP® Installation

S I M P L E . L O W C O S T . R O B U S T .

### PROJECT OVERVIEW:



#### LOCATION:

Llembe, South Africa

#### INSTALLATION YEAR:

2020

#### APPLICATION:

Municipal

#### PROJECT SIZE (gpm):

160,000 GPD (600 m<sup>3</sup>/D)

#### PRODUCT PLACEMENT:

Above grade, on concrete slab

#### PROJECT OWNER(s):

Tupelovox Pty Ltd.

#### MANUFACTURER:

BioMicrobics Inc.

#### EQUIPMENT USED:

- 1x MyFAST® 16.0 HS-STP®

High Strength Sewage

Treatment Plant



**TUPELOVOX (Proprietary) Limited is a 100% South African owned, controlled and managed company that provides turnkey, scientific and engineering solutions of Water and Wastewater Treatment**

### THE NEED FOR A WASTEWATER TREATMENT PLANT

Located in a wealthy district outside of Durban, South Africa and on the Indian Ocean, Tupelovox Pty Ltd. reached out to BioMicrobics wanting to upgrade an existing wastewater treatment system which was outdated and needed full time operators to run, to a more robust community wastewater treatment plant.

**THE CHALLENGES** The current wastewater plant was not meeting current wastewater treatment needs so the city of Durban needed something in a timely manner. This was during the height of Covid-19, so there was limited ability for the project managers to check out reference sites, talk face to face with industry experts, etc. They knew BioMicrobics from previous installations and trusted the technical support and engineering staff to help during this challenging time. Tupelovox ordered the equipment needed from BioMicrobics, but for the installation and training, due to Covid, all travel to South Africa was restricted. BioMicrobics created a training session for Tupelovox and delivered it on a video calling site to key stakeholders. The project managers were able to successfully install and initiate operation based on the extensive video training session.

**THE SOLUTION** The customer opted for a BioMicrobics MyFAST® 16.0 HS-STP® High Strength Treatment Plant due to its low maintenance cost, easy operation and its ability to produce high quality effluent which was necessary as the effluent produced from the plant would be discharged directly into the environment. The system was installed above grade on a concrete slab for central collection and treatment within a Municipal application. Designed to treat up to 160,000 GPD (600 m<sup>3</sup>/D), the treatment plant experienced peak flow in the morning and dinner hours with another jump in flow around mid-day. Tupelovox provided material, design, construction and performance requirements for the project and BioMicrobics provided a fully engineered pre-packaged Decentralised Wastewater Treatment System that was ideal for the South African community.

**THE RESULT** The BioMicrobics MyFAST® 16.0 system's final effluent was taken three days after commissioning, and the first SANAS accredited laboratory test was received. Results showed a 79% drop of Ammonia, a 74% COD drop, a 73% drop in Orth Phosphate as P and Nitrates go below 0.5 ppm detection limits. These results are compared with previous results of the old plant. The system has been running smooth and producing clear effluent for the last 4 years with low maintenance required.



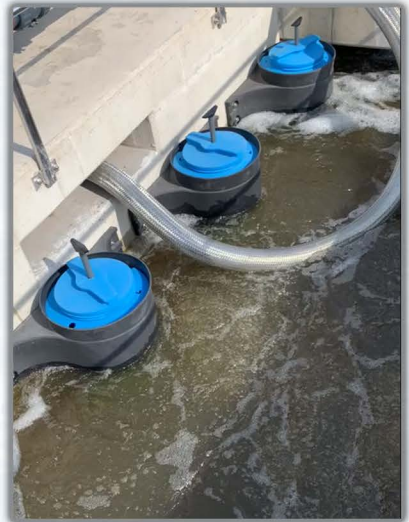
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## WHY ADVANCED WASTEWATER TREATMENT SYSTEMS?

Recognizing the environmental benefits, water savings, new stringent regulations, using treated wastewater as an alternate water source is a better on-site water management system.

Domestic and commercial wastewater contain contaminants and pollutants that are detrimental to the public health. It needs to be treated until clean enough to return safely back to the environment. Whether design-build projects or retrofits for property owners or “green-builders” wanting environmentally responsible on-site treatment systems, our expanded product line of Residential/Commercial “Green Technology” for onsite wastewater recycling & water reuse systems can help provide clean treated wastewater for water reuse opportunities for sustainable home landscaping irrigation to meet onsite water conservation goals.

Internationally certified and proven, these decentralized residential, community, and commercial wastewater (blackwater/Graywater) treatment technologies have performed exceptionally well in achieving the new higher levels of nitrogen removal, achieve net-zero water, and optimal effluent quality with automated, energy efficiency required today. Most certifications for small wastewater treatment systems are rated for up to number of persons or bedrooms. We refer to a set of treatment requirements to properly size the packaged (and/or site assembled) domestic wastewater treatment plants.

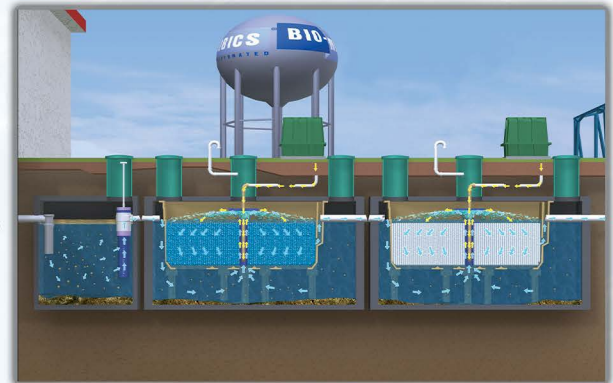


# MyFAST<sup>®</sup> HS-STP

## HIGH STRENGTH-SEWAGE TREATMENT PLANT

The HighStrengthFAST<sup>®</sup> system is an advanced wastewater treatment system that uses Fixed Activated Sludge Treatment (FAST) to break down organic material and nutrients in wastewater.

A treatment tank containing the HighStrengthFAST module receives wastewater from the facility and is typically placed after a primary settling tank or septic tank. The HighStrengthFAST module contains blocks of fixed media and a patented airlift device placed inside a rectangular liner.



The HighStrengthFAST media is selected for heavy-duty solids loading and blowers are selected for intensive aeration.



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