



ECOTECH AFRICA

Applied Environmental Technology

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CALTEX STAR STOP GETS NEW WASTE WATER TREATMENT PLANT



In October 2016 Ecotech Africa was requested to submit a proposal for an efficient Waste Water Treatment Plant for the Caltex Star Stop near Machadodorp.

The Ecotech Africa proposal was well received by the Engineers at Kantey & Templer Consulting engineers as well as Astron Energy (Then Chevron South Africa) as the plant is not only cost effective but also capable of achieving discharge standards at set forth by the Department of Water and Sanitation. The project kicked off in February 2017 when the submissions were made to Department of Water & Sanitation for the Environmental Authorization regarding the proposed plant. The plant off site construction was also undertaken in the meantime.

The Authorization was granted in December 2017 and the Water Use Licence was issued in May 2018, where after the project escalated to the second phase of construction and installation on site. Construction kicked off June 2018 and was a joyous moment after all the time spent in preparation and awaiting the required approval from the Governing bodies.

The plant is designed to handle 90 Kiloliters of Waste Water per day with a buffer for high flow

South Africa is the
39th 'driest'
country in the world

{Aquastats - UN}



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over peak times such as weekends and holidays when flows have shown to spike to 120 Kiloliters per day in the past.

As Ecotech Africa was appointed as the turn key service provider this included excavation, civil works, electrical supply and reticulation, installation of mechanicals and even installing fencing around the new waste water plant after the old plant was decommissioned and demolished.

Construction was completed in November 2019 where after hand over and commissioning was done to the dealership and Astron Energy. Ecotech Africa will still perform monthly maintenance and ensure the plant achieves environmental discharge standards as required.

MARCH
2019





PROJECT

WASTE WATER TREATMENT PLANT PROCESS

BIOLOGICAL TREATMENT BY ACTIVATED SLUDGE

Biological treatments, which use organisms to break down organic substances in wastewater, are widely used around the world. Unlike other wastewater treatments, use only mechanical or chemical processes, biological treatments include the use of bacteria, nematodes, or other small organisms.

This process involves confining naturally occurring bacteria at much higher concentration, in tanks. From here this bacteria, together with some protozoa and other microbes (collectively referred to as activated sludge) are treated in an anaerobic and an aerobic process. They are then returned to the anaerobic phase to eliminate sludge production and waste.

Our-activated-sludge WWTP is a system in which pre-treated sewage (i.e. having passed through primary treatment) is aerated to promote the growth of bacteria (cells) that gradually consume the organics in the sewage. The result is the development of cells acclimated to the particular mix of substances present in the sewage and a significant consumption of the organic material. The effluent is a mixture of water with suspended cells and drastically reduced BOD content. This mixture is then passed through a clarifier (settling tank) where the solids (mostly cells, called sludge at this stage) are separated from the water. The system is commonly operated in continuous mode (as opposed to batch mode). The system is properly speaking an activated sludge system when a portion of the sludge (cells) collected from the bottom of the clarifier is returned to the anaerobic phase. Not only are these cells already acclimated to the sewage, but by the time they are collected from the clarifier, they are also starved and really "hungry" for another meal!

If we consider that 100% of the effluent can be recycled, if done properly, there is no doubt that through this we are providing large bank of water, which previously may not have been considered as 'safe' for the environment or community. In fact, such innovative waste water management can result in the redistribution of this water into the environment for irrigation, flushing of toilets & dust suppression, as well as to replenish rivers and catchments in our water infrastructure networks. The technology is so advanced today, that effluent can even be treated further to potable (drinking) water for areas where it is in short supply.





PROJECT

ASBESTOS REMOVAL

TRANSNET - WITBANK WAGONS DEPOT
Ecotech Africa was contracted to safely remove and dispose of Asbestos Containing roof sheeting at Transnet Wagons Depot in Witbank.

The building is being revamped and all the asbestos containing material such as roof sheeting & ceilings had to be removed before the remodeling could be started. As time was a factor to have the asbestos removed and the area declared safe for the roofing contractor to get started our team stepped up to the challenge and completely removed the 760m² roof in a day and a half.



PRODUCT: MICROBELIFT

Ecotech Africa offers the widest range of Multi-strain bacterial products in Sub-Saharan Africa and Our products are extensively used in the agricultural, bio-chemical and petroleum industries and for the treatment of waste water and sewage. Microbelift IND is a high count multi strain microbial product that deals efficiently and cost effectively with most organic issues. The product has proven itself for over 40 years in multiple industries and ensures that waste is handled and treated in a way that is safe for the environment. There is currently no other product that can offer what Microbelift IND offers – the most effective patented bio technology to ensure continuous positive results. Unlike the 2-6 strain bacterial products commonly found in the market, we offer 29 strains that can handle most of the biological processes found in a waste system.



Give us a call or visit our website for more information about our services and products

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